PROCESSES AND PROPERTIES INDEX

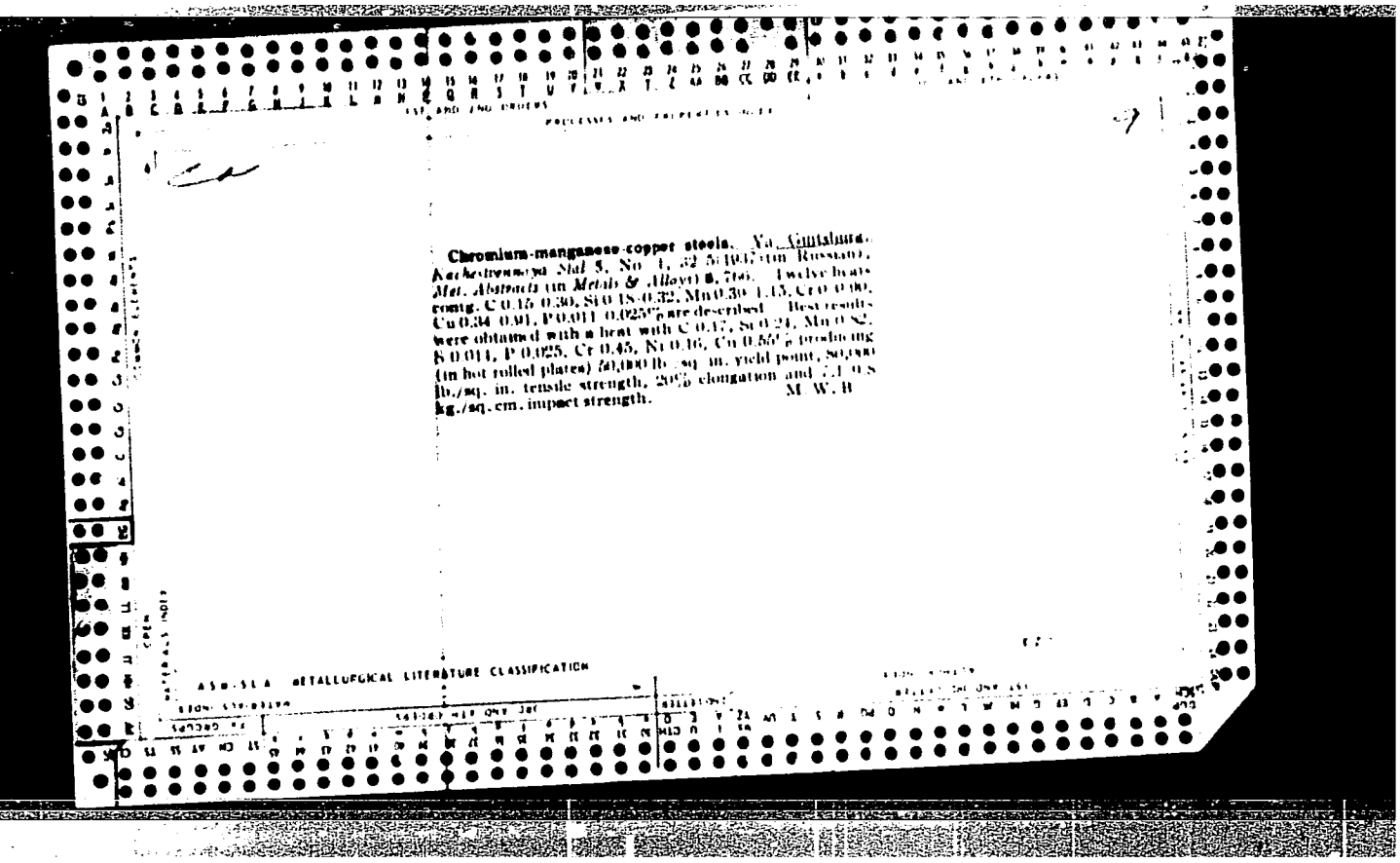
The thermomechanical working of white cast iron Ya. S. Gintsburg and S. I. Krasnitskii. *Sovet. Met.* 8, No. 1, 68–73(1936); *Chem. Zentr.* 1937, I, 966. Forging studies are reported on white cast iron of varying compn. The specimens contained 1.5–0% Cr and 2.6–3.5% C. The forging began at about 1050° and ended at about 850°. With careful working and control of temp., ingots can be forged without the appearance of internal or external cracks. To det. the best heat treatment for lathe tools of wrought white cast iron with 3.35% Cr the specimens were quenched in water or oil from 750–1100° and annealed at 150°. Structure and Rockwell hardness were detd. The best results (hardness and cutting edge) were obtained by quenching in oil from 850°. M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

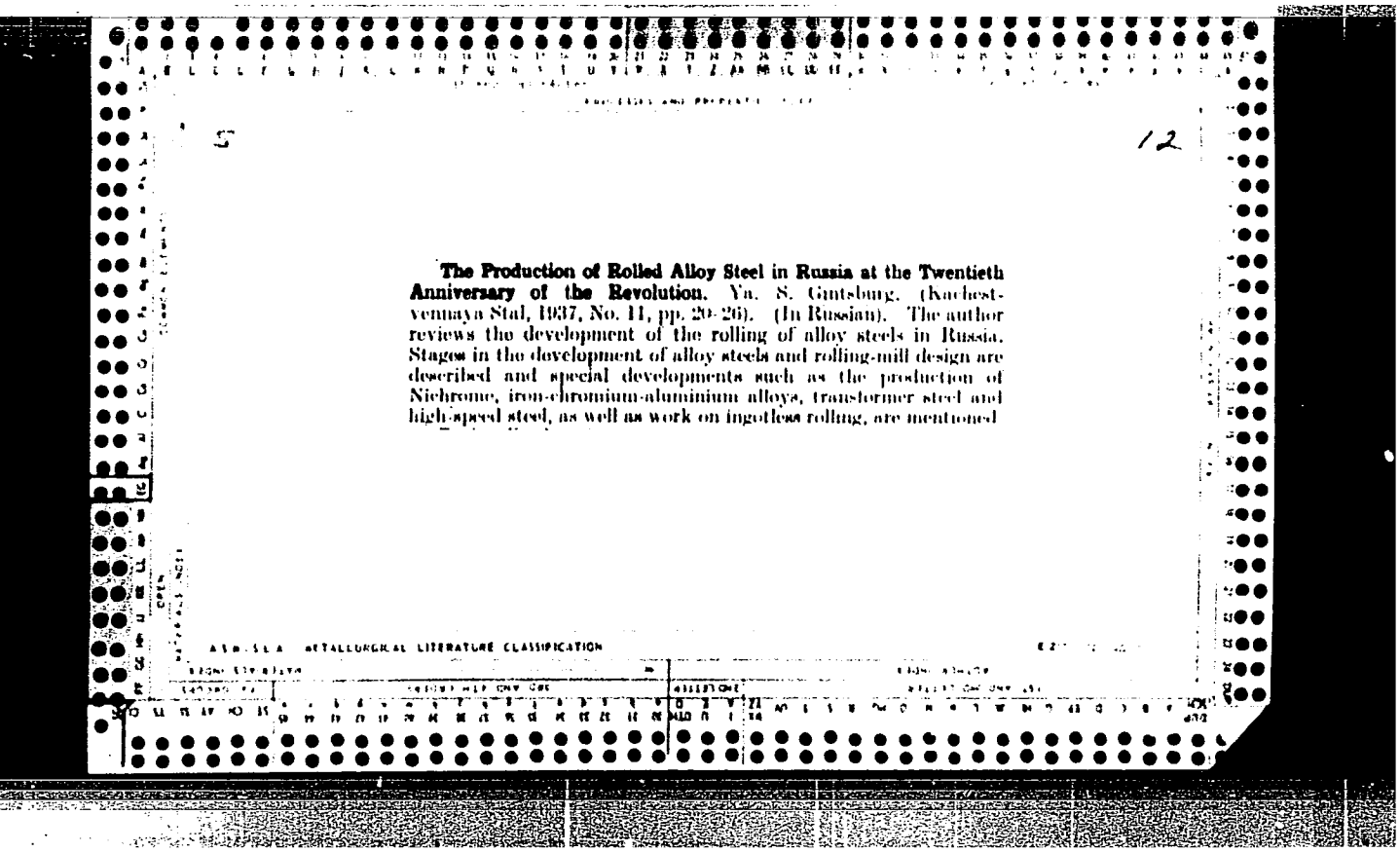
GINTSBURG, YA. S.

The thermal and mechanical finishing of highly alloyed steel and alloys Leningrad, Glav. red. lit-ry po chernoi metallurgii, 1937. (Mic 53-196)
Collation of the original as determined from the film: 379 p.

Microfilm TS-3



Chromium-manganese-copper steels. Va. Gintsburg. *Kachestvennaya Stal* 5, No. 1, 32–5(1935) (in Russian). *Met. Abstracts* (in *Metals & Alloys*) **6**, 256. Twelve heats containg. C 0.15–0.30, Si 0.18–0.32, Mn 0.30–1.15, Cr 0–0.90, Cu 0.34–0.91, P 0.011–0.025% are described. Best results were obtained with a heat with C 0.17, Si 0.24, Mn 0.82, S 0.014, P 0.025, Cr 0.45, Ni 0.16, Cu 0.56% producing (in hot rolled plates) 50,000 lb./sq. in. yield point, 80,000 lb./sq. in. tensile strength, 20% elongation and 7.1 kg./sq. cm. impact strength. M. W. B

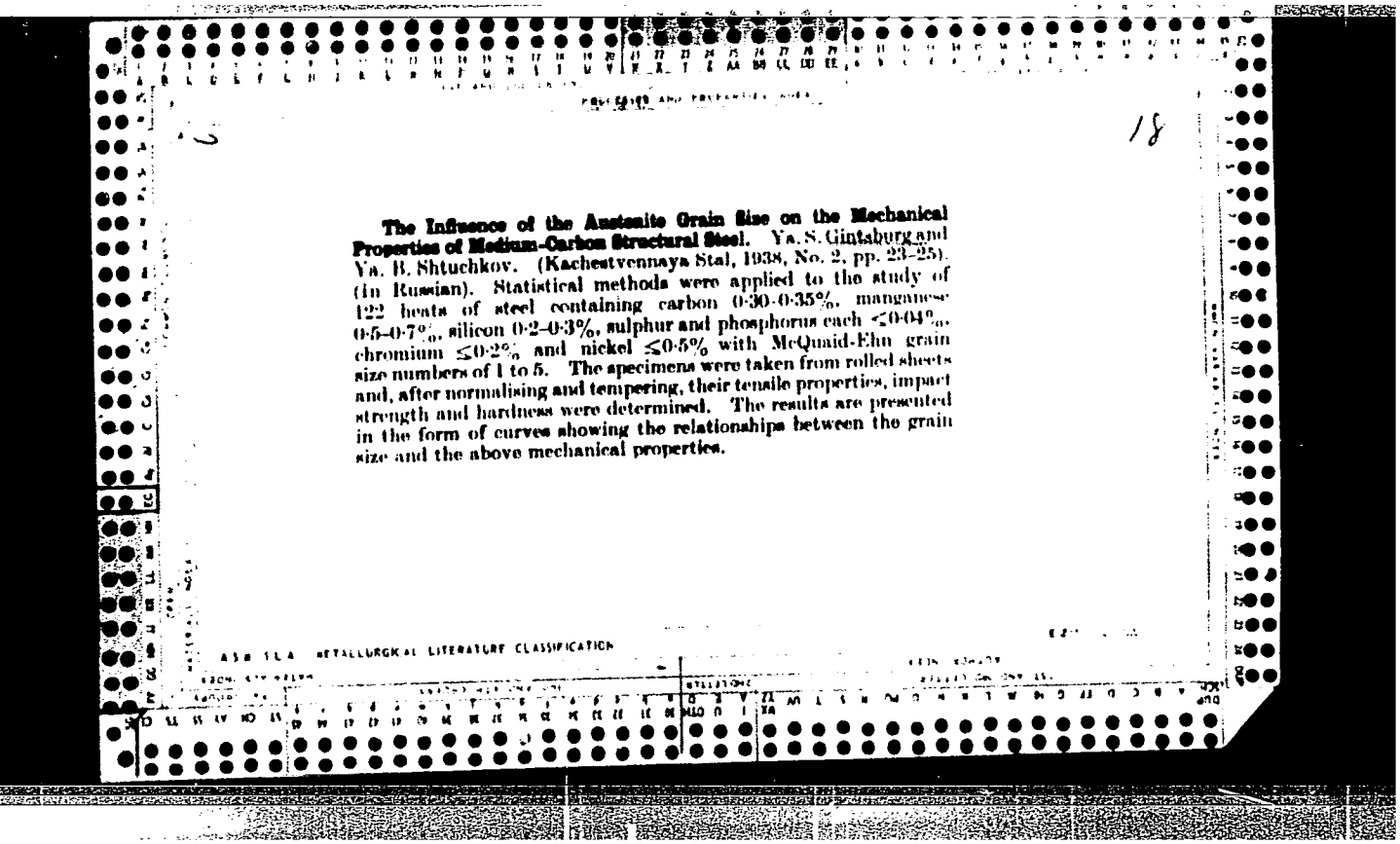


5

12

The Production of Rolled Alloy Steel in Russia at the Twentieth Anniversary of the Revolution. Ya. S. Gintsburg. (Kachestvennaya Stal, 1937, No. 11, pp. 20-26). (In Russian). The author reviews the development of the rolling of alloy steels in Russia. Stages in the development of alloy steels and rolling-mill design are described and special developments such as the production of Nichrome, iron-chromium-aluminium alloys, transformer steel and high-speed steel, as well as work on ingotless rolling, are mentioned

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION



18

The Influence of the Austenite Grain Size on the Mechanical Properties of Medium-Carbon Structural Steel. Ya. S. Gintsburg and Ya. B. Shtuchkov. (Kachestvennaya Stal, 1938, No. 2, pp. 23–25). (In Russian). Statistical methods were applied to the study of 122 heats of steel containing carbon 0·30–0·35%, manganese 0·5–0·7%, silicon 0·2–0·3%, sulphur and phosphorus each ≤0·04%, chromium ≤0·2% and nickel ≤0·5% with McQuaid-Ehn grain size numbers of 1 to 5. The specimens were taken from rolled sheets and, after normalising and tempering, their tensile properties, impact strength and hardness were determined. The results are presented in the form of curves showing the relationships between the grain size and the above mechanical properties.

ASM TLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

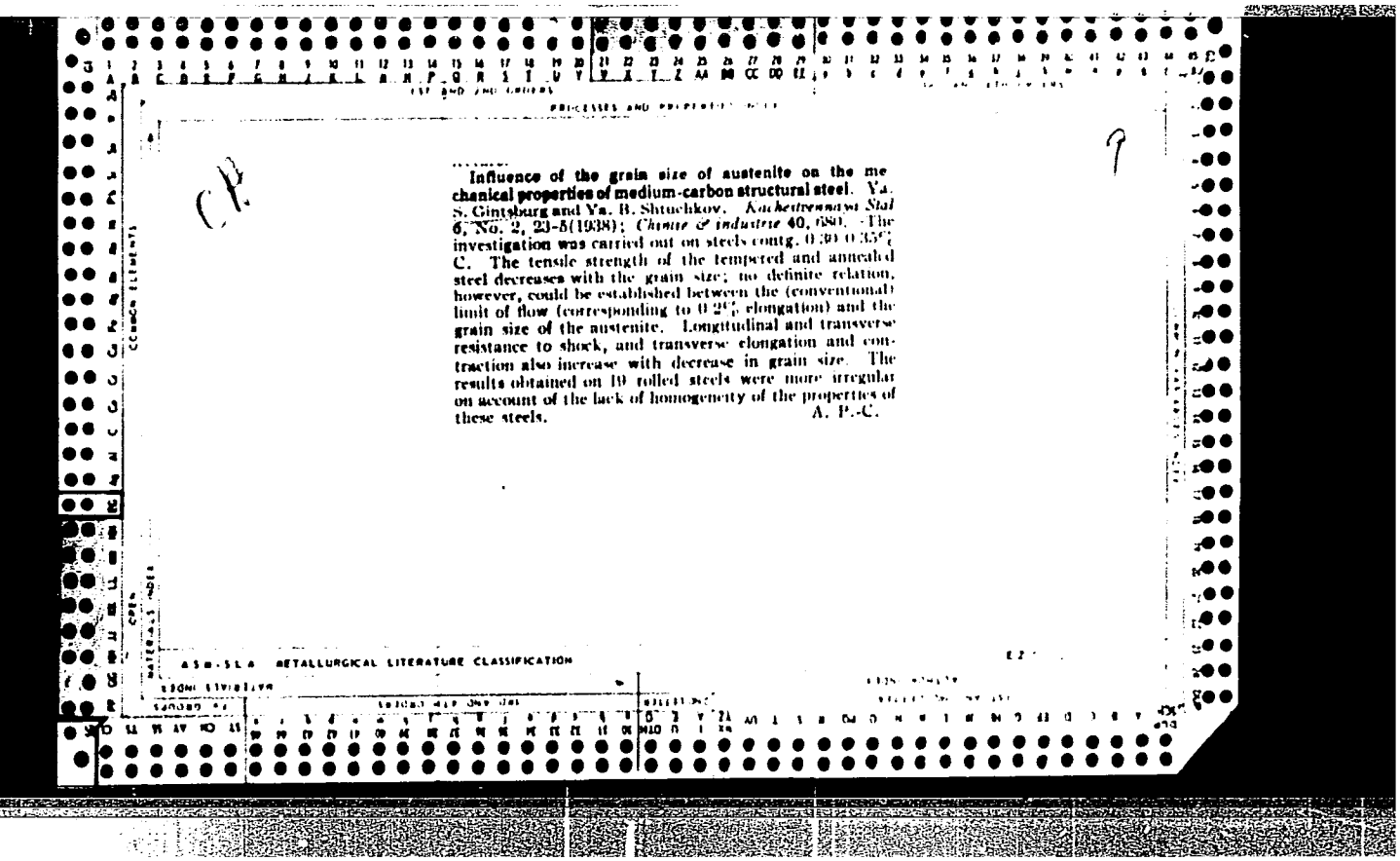
CA

9

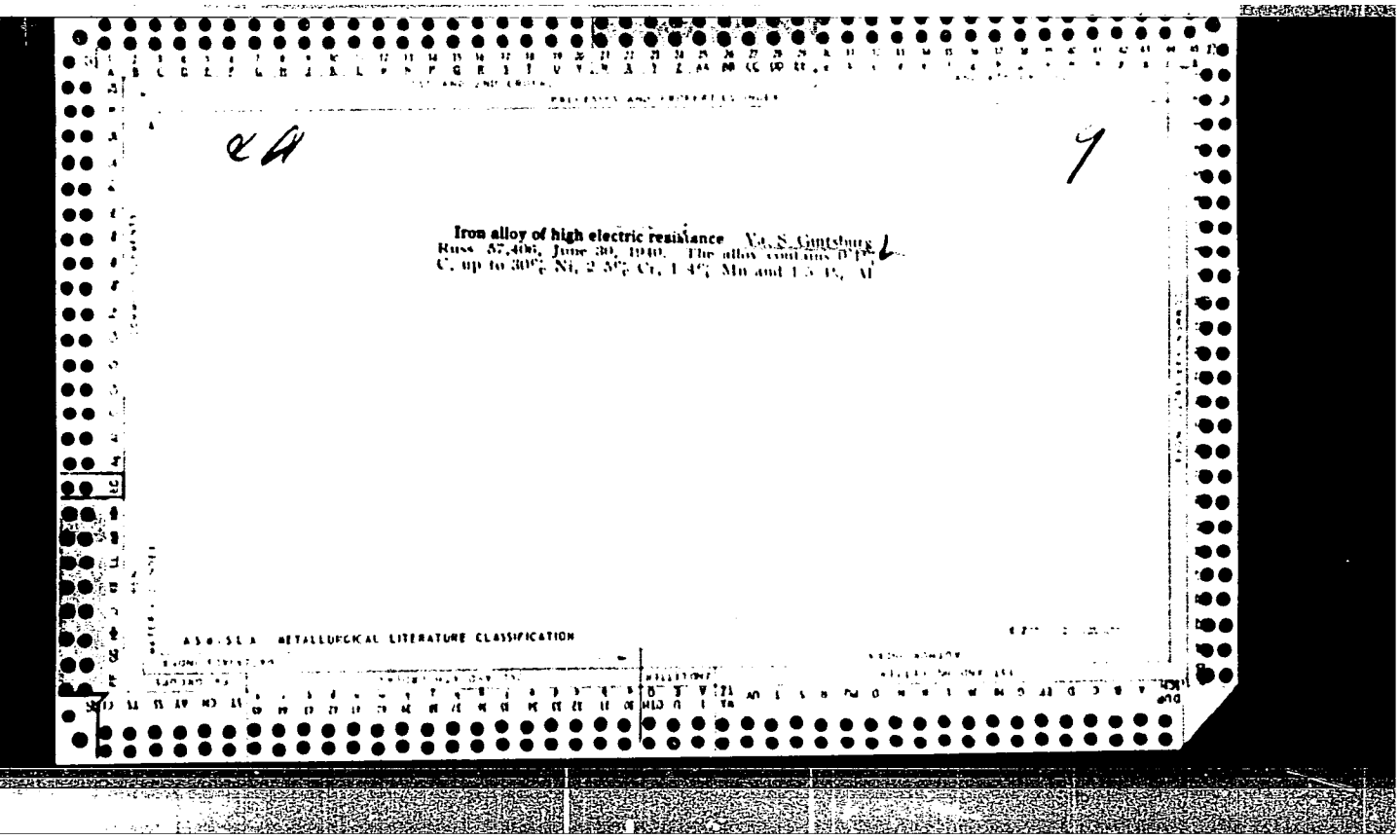
Manganese steel as a material for boiler construction. Ya. S. Ginzburg, E. A. Polzchenko and M. S. Frendel. *Kachestvennaya Stal* 6, No. 2, 9-14(1938); *Chem. Zentr.* 1939, I, 1051.—The mech. properties at normal and elevated temps., the tendency to age, the resistance to creep stress and the brittleness when hot were detd. for Mn steels contg. C 0.23-0.28, Mn 1.3-1.6 and Si 0.25-0.35%. As regards the mech. properties at normal and elevated temps. Mn steel was shown to be a satisfactory steel for boiler construction. While the sensitivity to aging was less than that shown by pure C steels, it was greater than that of age-resistant Al boiler steels, such as Izett steel and Cuprizett steel. It is hoped that by proper methods of smelting the resistance of Mn steels to aging can be improved.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

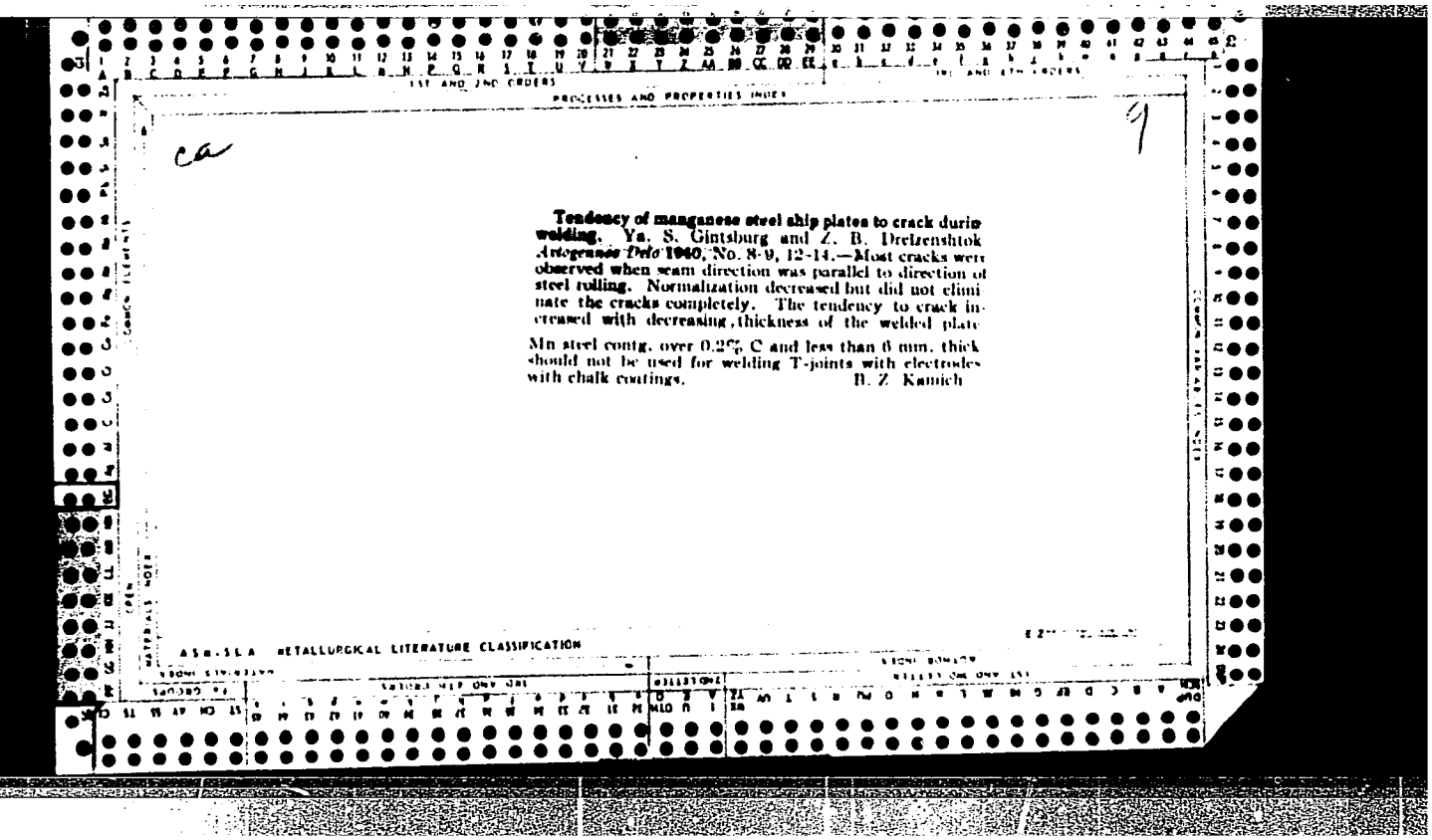


Influence of the grain size of austenite on the mechanical properties of medium-carbon structural steel. Ya. S. Gintsburg and Ya. B. Shtuchkov. *Kachestvennaya Stal* 6, No. 2, 23-5(1938); *Chimie & industrie* 40, 680. The investigation was carried out on steels contg. 0.30-0.35% C. The tensile strength of the tempered and annealed steel decreases with the grain size; no definite relation, however, could be established between the (conventional) limit of flow (corresponding to 0.2% elongation) and the grain size of the austenite. Longitudinal and transverse resistance to shock, and transverse elongation and contraction also increase with decrease in grain size. The results obtained on 10 rolled steels were more irregular on account of the lack of homogeneity of the properties of these steels. A. P.-C.



Iron alloy of high electric resistance Ya. S. Gintsburg
Russ. 57,406, June 30, 1940. The alloy contains 0.1% C, up to 30% Ni, 2.5% Cr, 1.4% Mn and 1.5-4% Al

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

ca

9

Tendency of manganese steel ship plates to crack durin welding. Ya. S. Gintsburg and Z. B. Dreizenshtok *Avtogennoe Delo* **1940**, No. 8-9, 12-14.—Most cracks were observed when seam direction was parallel to direction of steel rolling. Normalization decreased but did not eliminate the cracks completely. The tendency to crack increased with decreasing thickness of the welded plate

Mn steel contg. over 0.2% C and less than 6 mm. thick should not be used for welding T-joints with electrodes with chalk coatings. B. Z. Kanich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

GINTSBURG, YA S. FR 2ATI2

USSR/Electricity Aug 1947
Thermostat Controls
Heating, Electric

"Portable TSKTI Dilatometric Temperature Regulator," Ya. S. Gintsburg, Engr, 1 p

"Kotloturbostroyeniye" No 4

Diagram and explanation of a device for maintaining constant temperature in electrically heated laboratory and industrial ovens.

24T12

GINTSBURG, YA. S.

1/49T71

USSR/Metals Jan/Feb 48
Steel, Chromium Molybdenum
Columbium

"The Effect of Niobium on the Lasting Solidity of Chrome Molybdenum Steel at 550°," Ya. S. Gintsburg, Cand Tech Sci; A. V. Stanyukovich; K. A. Lenskaya, Engr, Cen Sci Res Turboboiler Inst imeni I. I. Polzunov, 2½ pp

"Kotloturbostroy" No 1 pp.17-19

Studies effect of niobium on its resistance to prolonged tension of a series of molybdenum-chrome steels containing 2.7% Cr and 0.5% Mo. Gives data on stability of chrome-molybdenum-niobium steels at 500°.

1/49T71

USSR/Metals Jul 49
Creep
Test Techniques

"Machine for Testing Metals for Creep," Ya. S. Gintsburg, N. D. Zaytsev, Sci Res Boiler Turbine Inst, 4 pp

"Zavod Lab" No 7

Describes new testing machine which has certain advantages over previous models. Maximum tensile capacity is 750 kg. Used 5-mm samples (37-38 kg/sq mm) which makes it suitable for any type of heat-stable alloys. Sketches show

62/49T85

USSR/Metals (Contd) Jul 49

loading system, electric-power supply for furnace, and mechanical recording of deformation. Includes photograph of machine and graphs of typical operation.

62/49T85

GINTSBURG, YA. S.

PA 161T50

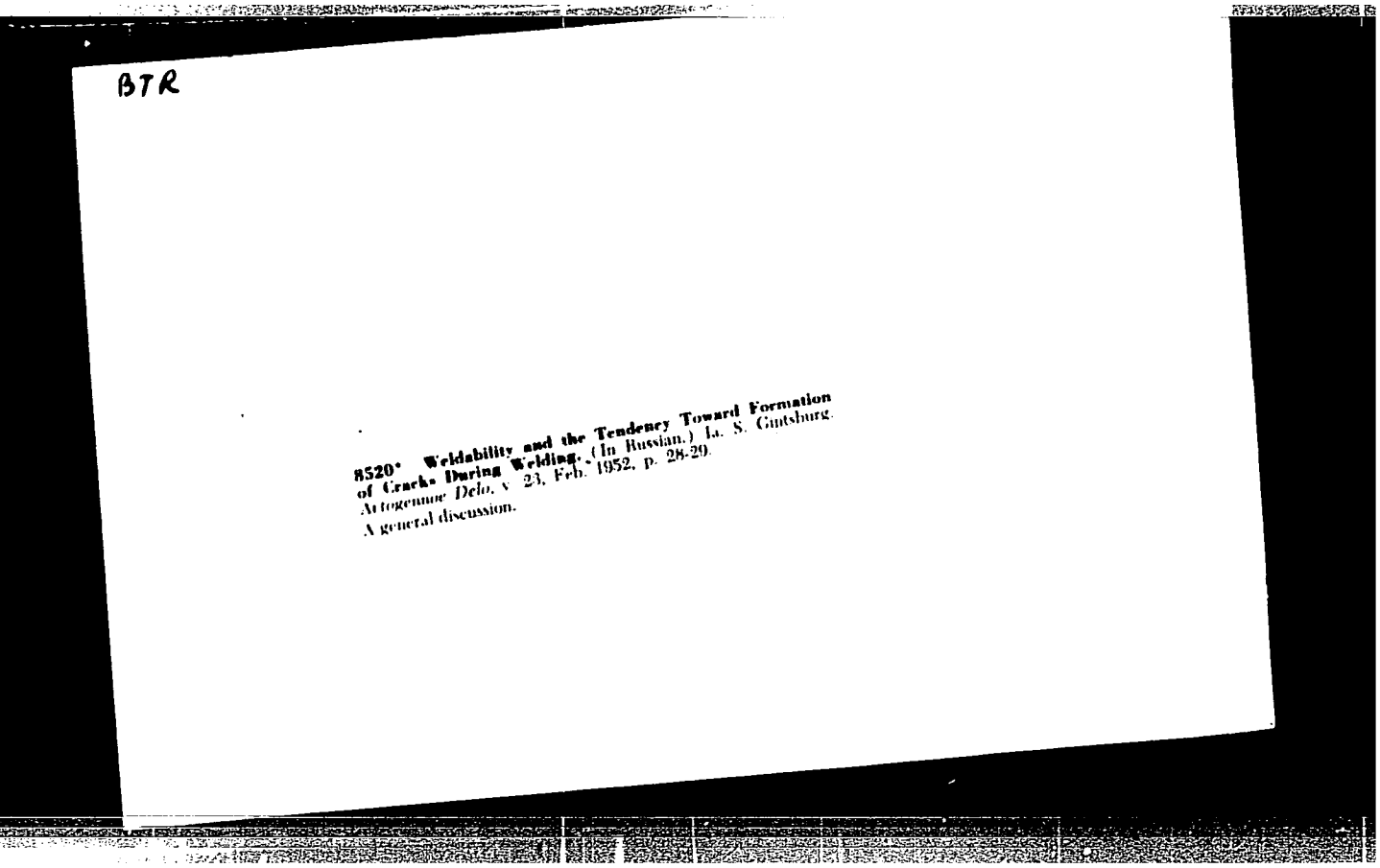
USSR/Engineering - Combustion Chambers Feb 50
Turbines, Gas

"Problem of Wall Stress and Flame Tube Metal Behavior in Gas Turbine Combustion Chambers Under Operational Conditions," Ya. S. Gintsburg, 3 pp

"Energet Byul" No 2

Kurochkin examined particular case when determining heat stresses in flame tubes [see PA 152T247. As a result, he concluded these stresses were less severe than they actually are. Gintsburg discusses factors affecting these stresses and deduces requirements for alloy of which flame tube is made.

161T50



BTR

8520. **Weldability and the Tendency Toward Formation of Cracks During Welding.** (In Russian.) Ia. S. Gintsburg. *Avtogennoe Delo*, v. 23, Feb. 1952, p. 28-29.
A general discussion.

GINTSBURG, Ya.S.; ANDRATSKIY, K.K.: PROTASOV, A.A., inzh., retsenzent; DZUGUTOV, M.Ya., inzh., retsenzent; ZAROSHCHINSKIY, M.L., prof. doktor tekhn.nauk, red.; GORDON, L.M., red.izd-va; PETROVA, N.S., tekhn.red.

[Rolling high-grade steel] Prokatka kachestvennoi stali. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1953. 464 p. (MIRA 11:6)
(Rolling (Metalwork))

GINTSBURG, Ya.S.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 444 - I

BOOK Call No.: TA460.G5

Author: GINTSBURG, YA. S., Kand. of Tech. Sci.
Full Title: TESTING OF METALS AT HIGHER TEMPERATURES
Transliterated Title: Ispytaniya metallov pri povyshennykh temperaturakh

Publishing Data

Originating Agency: None
Publishing House: State Scientific and Technical Publishing House of Literature on Machine Building and Shipbuilding ("Mashgiz")
Date: 1954 No. pp.: 252 No. of copies: 5,000
Editorial Staff
Editor: Gel'derman, L. Sh., Kand. of Tech. Sci.
Appraiser: Kudryavtsev, I. V., Prof., Dr. of Tech. Sci.

Text Data

Coverage: In this monograph the prevalent modern methods of mechanical testing the properties and quality of metals at temperatures up to 600°C are dealt with in detail. Because of the wide use of high-pressure steam equipment (boilers, turbines, etc.) in postwar USSR, machine parts are now under higher strain. Special attention is given to the effects of creep, fatigue and relaxation. A short survey of corrosion testing procedures is included.

1/3

Evaluation B-84718, 3 Jan 55

AID 444 - I

Ispytaniya metallov pri povyshennykh temperaturakh

Soviet methods and testing machines are discussed at length: e.g., the Brinell hardness test developed by I. L. Mirkin and D. E. Livshits, and the original device of N. T. Gudtsov and M. G. Lozinskiy for determining the aging of metals by the hardness test. This device, according to the author, excels all foreign installations (pp. 50-54, with illustrations). Various testing machines and furnaces of the Central Institute for Boilers and Turbines (TsKTI), of the Central Scientific-Research Institute of Technology and Machine Building (TsNIITMASH) and of many others are fully described.

The book is provided with illustrations, drafts, tables and diagrams.

TABLE OF CONTENTS

Ispytaniya metallov pri povyshennykh temperaturakh AID 444 - I

Purpose: The book is intended for engineers in industrial laboratories and scientific workers in research institutes
Facilities: None
No. of Russian and Slavic References: 89 Russian
Available: Library of Congress

GINTSBURG, YA. S.
USSR/Metallurgy

Card 1/1

Author : Gintsburg, Ya. S., Cand. in Tech. Sciences, Docent

Title : Some instances of conformity to law in the second period in the testing of austenite steel for relaxation

Periodical : Vest. mash. 34/3, 46-49, Mar/1954

Abstract : The process of relaxation goes on under conditions of uninterrupted softening of the material with a gradual slowing down of speed in accordance with a definite formula. The materials involved in the experiments are principally austenite steel but also carbide type like perlitic, austenitic and austenitic-ferrite compounds. The processes of aging are studied in experiments. Two Russian references, latest 1950. Tables; graphs.

Institution : .....

Submitted : .....

Evaluation B-81417, 16 Dec 54

GINTSBURG, Ya.S., dotsent; DANOVICH, D.M., inzhener; BELYATSKAYA, R.G., inzhener

"Hot zinc coating." A.V. Smirnov. Reviewed by IA.S. Gintsburg, D.M. Danovich, R.G. Beliatskaia. Stal' 15 no.6:572-574 Je '55. (MLRA 8:8)

1. Zavod "Metallokombinat". (Galvanizing) (Smirnov, A.V.)

GINTSBURG, Ya. S.

Metal

Method of Pre-Treatment in Stress-Relaxation Tests. Ya. S. Gintsburg. (*Zavodskaya Laboratoriya*, 1955, 21, (2), 223–226). [In Russian]. The pre-treatment method developed in relaxation tests enables the suitability of steel for service under conditions of relaxation of bolted joints and springs to be evaluated. The technology for the production of the steel part and its pre-treatment can also be selected. The duration must be kept as short as possible, it is determined from experimental data of pre-treatments of 1 hr. and over, increasing with temperature. The pre-treatment stress is selected in relation to the service temperature of the steel being investigated.—e. n.

GINTSBURG, Ya. S.

BELYATSKAYA, R.G.; GINTSBURG, Ya.S.; DANOVICH, D.M.; GORODSKOY, K.P., red.; YUZHNAYA, Ye.A., red.izdatel'stva; SOSNIN, A.P., tekhn.red.

[Hot zinc plating of light sheet steel and utensils] Goriachee otsinkovanie krovel'noi stali i posudy. Moskva, Gos.izd-vo mestnoi promyshl. RSFSR, 1956. 179 p. (MIRA 10:12)
(Zinc plating)

GINTSBURG, Ya.S.

Relaxation testing of models of bolted couplings. Zav.lab. 22 no.5: 584-585 '56. (MLRA 9:8)
(Bolts and nuts--Testing)

Gintsburg, Ya. S.

E-10

USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds.

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11909

Author : Gintsburg, Ya.S.

Inst :

Title : Simplification of Relaxation Tests of Metals and Alloys.

Orig Pub : Zavod. laboratoriya, 1956, 22, No 7, 840-845

Abstract : Within the limits of the second period up to the critical relaxation temperature, the stress-relaxation curves at constant temperature, plotted in coordinates of the initial stress (σ_0) and the stress after prolonged relaxation t (σ_t), is in the shape of a straightline passing through the origin; the slope of the curve depends on t. When plotted in coordinates log σ_0 -- log σ_t, the above dependence is also linear (subject to the same limitations). Expressing these relations analytically, the author obtains linear equations with empirical coefficients,

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Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11909

which can be determined from two experimental points. Knowing the coefficients, it is possible to use the derived relationship to calculate data on stressed relaxation, corresponding to other initial stresses.

Gintsburg, Ya. S.

USSR / Solid State Physics / Phase Transformations in Solid Bodies E-6

Abs Jour : Ref Zhur - Fizika, No. 5, 1957 No. 11696

Author : Gintsburg, Ya. S., Margolin, Yu. M., Sachavskiy, A.F.

Inst :

Title : Physical Methods of the Study of Fast Transformations in Highly-Alloyed Steel.

Orig Pub : Zavos. laboratoriya, 1956, 22, No. 9, 1046 - 1052

Abstract : Description of the application of magnetic and X-ray structural methods in combination with chemical phase analysis for an all-out investigation of the processes of aging of high-alloyed steel at increased temperature. A study of non-magnetic steel of the austenite class and of the ferromagnetic austenite-ferrite alloys was made. The specimens were subjected to quenching from 1150° and soaking

Card: 1/2

USSR / Solid State Physics / Phase Transformations in Solid Bodies E-6

Abs Jour : Ref Zhur - Fizika, No. 5, 1957 No. 11696

Abstract : at 650 -- 800° up to 4000 hours. An investigation was made of the change in the magnetic susceptibility of the steels during soaking, the change of the lattice period of austenite, and of the special carbides. It was found that in the study of the processes that take place in paramagnetic steels (aging with decomposition of the austenite and formation of ferromagnetic phases), the magnetic method is more sensitive than the X-ray structural method. In the investigation of ferromagnetic steels, the X-ray structural analysis is more sensitive than the magnetic one.

Card: 2/2

GINTSBURG, Ya.S., kandidat tekhnicheskikh nauk, dotsent.

On the critical notes by T.I. Volkova, candidate of technical sciences. (MIRA 10:1)
Vest.mash. 36 no.11:88-89 N '56.
(Steel--Testing) (Austenite)

GINSTSBURG, YAKOV SOLOMONOVICH

PHASE I BOOK EXPLOITATION 458

Gintsburg, Yakov Solomonovich, Candidate of Technical Sciences

Relaksatsiya napryazheniy v metallakh (Relaxation of Stresses in Metals)
Moscow, Mashgiz, 1957. 169 p. 5,000 copies printed.

Reviewer: Oding, A., Corresponding Member of the Academy of Sciences, USSR;
Ed.: Pogodin-Alekseyev, G.I., Doctor of Technical Sciences, Professor;
Ed. of Publishing House: Leykina, T.L.; Tech. Ed.: Sokolova, L.V.;
Chief Ed. of the Leningrad Branch of Mashgiz: Bol'shakov, S.A., Engineer

PURPOSE: This book is intended for engineers in plant laboratories, designers, and scientific personnel in research institutes.

COVERAGE: This book deals with relaxation of stresses in metals. The author discusses the formal and physical theories of stress relaxation and the basic factors of this phenomenon. A description is given of the methods of investigation, the processing and utilization of the results of testing metals for stress relaxation. Methods for increasing relaxation stability of metals are also described. The interrelation between creep and stress relaxation in metals is treated briefly.

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Relaxation of Stresses in Metals(cont.)

The author cites recent contributions to the study of stress relaxation and creep made by the following Soviet researchers:1)N.N. Davidenkov, P.I. Yuzvinskaya, I.A. Oding, L.M. Kachanov, Yu.N. Rabotnov, and V.I. Rozenblyum (interrelation of stress relaxation and creep phenomena) and 2) N.N. Davidenkov, G.V. Kurdyumov, S.T. Konobeyevskiy, B.V. Rovinskiy, M.A. Bol'shanina (problems of crystal lattice deformation). There are 205 references, of which 131 are Russian (126 Soviet and 5 pre-1917), 65 English, 7 German, and 2 French.

TABLE OF CONTENTS:

Relaxation of Stresses in Metals (cont.)

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Relaxation of Stresses in Metals (cont.)

AVAILABLE: Library of Congress

VK/mas
7-23-58

Card 4/4

GINTSBURG, Ya.S.

Third period of creep and stress relaxation. Zav.lab. 23 no.7: 838-842 '57. (MLRA 10:8)
(Creep of metals)

Dec. Tech

GINTSBURG, Ya.S., [redacted] Sci -- (diss) "Certain problems of the relaxation of stresses in metals." Len, 1958, 25 pp with graphs (Min of Higher Education USSR. All-Union Correspondence Forestry Engineering Inst) 120 copies (KL, 29-58, 131)

AUTHOR: Gintsburg, Ya. S. SOV/32-24-7-36/65

TITLE: An Apparatus for the Investigation of the Relaxation of the Torsion Stress in Metals (Mashina dlya issledovaniya relaksatsii napryazheniy v metallakh pri kruchenii)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 7, pp. 865 - 867 (USSR)

ABSTRACT: The compensation method for the investigation of the relaxation of the stretching stress in metals has hitherto not been employed often as it is difficult to carry out a precise reduction of the load in order to obtain the true relaxation curve. In order to achieve this another sort of the stress state of the sample must be chosen; then a greater deformation takes place, which may be obtained with torsion. In connection with this problem torsion tests were carried out with one of the first Soviet machines for creep tests, with cylindrical springs being used in the place of the cylindrical or tubular samples. A.A. Finashkin and B.S.Zhits took part in the assembly of the machine and in the tests. The author gives a schematic representation of the loading principle and the electric circuit of the model plant (Fig 1). From it may be seen that

Card 1/2

An Apparatus for the Investigation of the Relaxation of the Torsion Stress in Metals SOV/32-24-7-36/65

a dialbalance was used as dynamometer which made possible a measuring accuracy of up to 0,2%. An extensometer of the usual type was used for the determination of the deformation. A graph of the relaxation curves of carbon steel 20 at 400° is given, with the equation according to which the stress was calculated being given. There are 2 figures and 3 references, which are Soviet.

Card 2/2

IGINZBURG, Ya. S.

PHASE I BOOK EXPLOITATION SOV/3559

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po probleme zharoprochnykh splavov

Issledovaniya po zharoprochnym splavam, t. 5 (Investigations of Heat-Resistant Alloys, Vol 5) Moscow, Izd-vo AN SSSR, 1959. 425 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V.A. Klimov; Tech. Ed.: I.F. Kuz'min; Editorial Board: I.P. Bardin, Academician, G.V. Kurdyumov, Academician, N.V. Ageyev, Corresponding Member, USSR Academy of Sciences (Resp. Ed.), I.A. Oding, I.M. Pavlov, and I.F. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

COVERAGE: This book, consisting of a number of papers, deals with the properties of heat-resisting metals and alloys. Each of the papers is devoted to the study of the factors which affect the properties and behavior of metals. The effects of various elements such as Cr, Mo, and W on the heat-resisting properties of various alloys are studied. Deformability and workability of certain metals as related to the thermal conditions are the object of another study described. The problems of hydrogen embrittlement, diffusion and the deposition of ceramic coatings on metal surfaces by means of electrophoresis are examined. One paper describes the apparatus and methods used for growing monocrystals of metals. Boron-base metals are critically examined and evaluated. Results are given of studies of interatomic bonds and the behavior of atoms in metal. Tests of turbine and compressor blades are described. No personalities are mentioned. References accompany most of the articles.

GINTSBURG, Ya.S.

Evaluation of the long-period relaxation strength at elevated temperatures. Zav.lab. no.11:1405-1406 '59. (MIRA 13:4)
(Strains and stresses)

GINTSBURG, Ya.S.

Parametric methods for the evaluation of the long-period strength of metals (survey). Zav.lab. 26 no.7:863-866 '60. (MIRA 13:7)

(Metals—Testing)

20279
S/148/60/000/009/016/025
A161/A030

10.9200 also 2808, 1418, 1413

AUTHOR: Gintsburg, Ya.S.

TITLE: On the third stress relaxation period in metals

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 9, 1960, 116-119

TEXT: The total deformation in the creep of metals with phase transformations at constant stress (σ_t = const) is unlimited and may be expressed by the relation:

$$\varepsilon_{total} = \varepsilon_0 + \varepsilon_n + \varepsilon_B = \varepsilon_0 + \varepsilon_{creep} + \varepsilon_{phas} = \text{const}, \qquad (2)$$

where $\varepsilon_0 \neq$ const, $\varepsilon_{creep} \neq$ const, and $\varepsilon_{phas} \neq$ const,

and the creep presented graphically (Fig1) in three periods of "unlimited" creep with stress relaxation, "invariant" ($B\delta$) stress, and "accumulation".

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S/148/60/000/009/016/025
A161/A030

On the third stress relaxation period ...

All three kinds are observed in real alloys. The two first portions of the relaxation curve had been described for the first time by I.A.Oding (Ref.2), and the third revealed recently (Ref.3) (Ya.S.Ginzburg, "Zavodskaya laboratoriya", XIX, 1953, No.5) and met critically at first (Ref.4-9). This 3rd period is observed with a drastic decrease of volume, as may be seen from relaxation and dilatometeric curves (Fig.2) of several chrome-nickel-manganese heat-resistant alloys (The figures in alloy designations mean - the first Cr%, the second Ni%, and the third Mn%; H - niobium, B - tungsten; apart from these, all alloys contained about 1% Mo, 0.8-1.2% V, and 0.1 - 0.2% C). According to the equation (2), the result of the phase transformation $\alpha - \sigma$ is not an increase but a decrease of the irreversible deformation component, and hence an increase of the reversible (elastic) component, and not a decrease but growth of creep stress $\sigma_t = \varepsilon_o \cdot E_t$, which is plainly contrary to the conceptions of some authors (Ref.4, 5, 6, 8, 9). However up to now, the phenomenon of the 3rd period had been discovered by the author and in most of the Soviet laboratories in tests of heat-resistant alloys only. It is difficult to detect in alloys with faintly developed phase transformations and very small volume of inter-

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On the third stress relaxation period ...

crystalline matters. For instance, the thickness of boundaries visible in a light microscope in heat-resistant alloys in $\alpha \rightarrow \delta$ transformation was from 5,000 to 40,000 Å or 1,500 - 11,500 interatomic spaces (at the relation of boundary thickness to mean grain thickness 0.001 - 0.008), and in armco iron the grain boundary thickness is only 10 Å, or 4 interatomic spaces. Nevertheless, the phenomenon had been obeserved in carbon steel "20" and "40" and in armco iron at 550°C, but so faintly that the author did not detect it (Ref.11). A machine has been built at the author's laboratory for relaxation tests of springs (Ref.12) (Ya.S.Ginzburg, "Zavodskaya laboratoriya", XXIV, 1958, No.7), amplifying residual deformation and having a high sensitivity. It made possible the maintaining of deformation of the order of $\pm 5 \cdot 10^{-9}$ m/mm, compared with only $\pm 1 \cdot 10^{-6}$ mm/mm possible in the best foreign test machines (Ref.13) (W.E.Trumpler, J.appl.Phys., v.12, 1941, No.3). As it can be seen (Fig.3), the 3rd period appeared at 550°C; in (Fig.4) it is also clearly expressed. Its intensity increased with the decreasing carbon content. The observations prove that the 3rd period on the relaxation curve occurs in facilitated boundary creep conditions, and its intensity may depend on temperature as well as the condition of bound-

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ary regions (facilitated boundary creep). It is proven that the 3rd period phenomenon exists in heat-resistant as well as in carbon steel and in armco iron, regardless of the nature of the phase transformations. There are 4 figures and 13 references: 11 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Vsesoyuznyy zaochnyy lesotekhnicheskiy institut (All-Union Correspondence Institute of Forestry)

SUBMITTED: 25 January 1960

S/148/60/000/011/009/015
A161/A030

AUTHOR: Gintsburg, Ya. S.

TITLE: The reversibility of the 3rd stress relaxation period

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 11, 1960, 92 - 96

TEXT: As is known, the stress relaxation rate can be decreased for some time in strained connections by means of training or of reloading. The author determined earlier the proper training regime for metals destined for service in temperature below the critical relaxation range (Ref. 1, Ya.S. Gintsburg, Zavodskaya laboratoriya, 1955, No. 2, 223 - 226), and found that in temperatures above this range training and reloading are of little effect (Ref. 2, Ya. S. Gintsburg. Stress relaxation in metals, Mashgiz, 1957). Other authors supposed that reloading may reverse the III length of the relaxation curve. This has been investigated in the subject work on steel in which the III length developed clearly in tests in 650°C (i.e., above the critical relaxation range).

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The reversibility of the ....

Steel grade	C	Cr	Mn	Ni	Mo	V	W	Nb	(%)
13-8-11-3B (13-8-11-3V)	0.24	13.3	11.3	7.6	1.10	1.23	2.75	-	
18-10-10-2B (18-10-10-2V)	0.11	18.2	10.8	10.2	1.00	0.70	1.99	-	
20-20-5-2B (20-20-5-2V)	0.12	20.5	21.1	4.5	1.70	0.69	2.20	-	
15-9-8-1.5B (15-9-8-1.5N)	0.30	14.2	16.6	8.4	1.36	0.80	-	1.56	

Specimens were preliminarily austenized at 1190° and cooled in water, and aged at 750° for 4 hours. With the exception of the 18-10-10-2V, steel was nonmagnetic and in the γ-solid solution state; 18-10-10-2V had 20 % ferrite; all specimens had carbides in the structure. Relaxation was tested on

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Relaxation was tested on rings with an equal bending resistance. Reloading was applied in two ways: 1) After a time insufficient for the development of the III relaxation curve length, and 2) After the III length was developed clearly enough. A specimen of 13-8 11-5V steel (Figure 1) was reloaded 2500 hours after the start of the test (when the relaxation curve was yet within the II length and in full accordance with the irreversible deformation curve, Figure 1b), 800 hours after the second loading moment and 3300 hours after the start of the test the curve passed into the length III. In the I length range at the first loading the grain of the specimen structure was covered with fine disperse excess phase segregations (carbides and sigma in different formation stages), with thick lamellar (0.5 - 1.0 micron) carbides and sigma phase on the solid solution gamma grain boundaries, as well as point segregations of sigma which had not completely formed at this stage. In the III range, the number of the fine point segregations in the grain body increased. The sigma formation on the boundaries became more intense and lamellar. Later on (2500 - 5000 hours), the coagulation of sigma continued, and solid segregations were formed in spots on the boundaries (Figure 1). The three other steels were reloaded in the III relaxation range, and the I and II ranges developed

again, for a shorter time than at the first loading. The 15-9-8-1.5N steel structure is shown in the drawing made from colour transformation patterns (black - sigma, grey - carbides; light grey background - solid gamma solution; Figure 5). The coagulation continued with the formation of solid sigma films on grain boundaries. In all steels, in the gamma-stage, either completely or with 20% ferrite, the transition of the relaxation curve into the range III was stated to be caused by the formation of spheroids, lamel chains, and solid sigma segregations on the boundaries. In some steels not included in the subject investigation, the sigma lamels in the range II had serrated edges disappearing in the coagulation process in transition into the range III turning into planes of facilitated viscous flow (boundary shearing). It is characteristic that the serrations or separate twisted sigma lamels working as thorns present obstacles for viscous boundary shear, and the relaxation rate remains in limits permitting the process of the curve range II. As soon as the coagulation evens out the serrations and "thorns", the relaxation curve passes into the range III, i.e., intense relaxation softening. The diffusion processes leading to coagulation and spheroidization of sigma open the way to dislocations and stress relieving. Reloading creates temporary obstacles for dislocations

in the form of a "cloud" of dissolved atoms. The "diffusion" of the "cloud" at high temperatures is speedy, and the obstacles disappear. Repeated loading only slightly postpones the moment of the repeated start of range III, and the phenomena in range III are practically irreversible. Microscopic studies were carried out by Candidate of Technical Sciences YE. M. Pivnik. There are 5 figures and 4 Soviet references.

ASSOCIATION: Vsesoyuznyy zaochnyy lesotekhnicheskiy institut (All-Union Correspondence Wood Industry Institute)

SUBMITTED: January 25, 1960

BOBROV, Anatoliy Grigor'yevich; GINTSBURG, Ya.S., kand. tekhn. nauk, red.; VARKOVETSKAYA, A.I., red. izd-va; PETERSON, M.M., tekhn. red.

[Instruments and devices for mechanical testing] Pribory i prisposobleniia dlia mekhanicheskikh ispytanii. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 79 p. (MIRA 14:9)
(Testing machines)

GINTSBURG, Ya.S.

Evaluating the durable plasticity of metals. Izv. vys. ucheb. zav.; chern. met. no. 1:112-117 '61. (MIRA 14:2)

1. Vsesoyuznyy zaochnyy lesotekhnicheskiy institut.
(Metals--Testing) (Plasticity)

GINTSBURG, Ya. S.

Hardening and softening during stress relaxation in austenite steels. Izv.vys. ucheb. zav.; chern. met. no.3:126-133 '61. (MIRA 14:3)

1. Vsesoyuznyy zaochnyy lesotekhnicheskiy institut.
(Steel—Hardening)
(Creep of metals)

GINTSBURG, Ya.S.

Concept of "pure" stress relaxation in metals. Izv.vys.ucheb.zav.; chern.met. 4 no.9:121-123 '61. (MIRA 14:10)

1. Vsesoyuznyy zaochnyy lesotekhnicheskiy institut.
(Strains and stresses) (Creep of metals)

2399h
S/148/61/000/005/008/015
E073/E535

AUTHOR: [illegible], Ya. S.

TITLE: Methods of Extrapolating Results of Relaxation Tests

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, 1961, No.5, pp 132-138

TEXT: For ensuring reliable long-run operation of bolt and nut joints and springs in steam and gas turbines, it is essential to have available a simple and relatively accurate method of determination of the relaxation stability of materials. The complexity of the task of extrapolating stress relaxation curves increases with increasing operating temperatures reaching phase transformation temperatures in the respective alloys, as a result of which the structure and the properties of high temperature steels and alloys change considerably with time. The author proposes extrapolation of earlier published (Ref.8: V sbornik mashinostroyeniya, 1954, No.5, 46-49) results of long-run tests in the coordinate system: σ - τ. Long-run relaxation tests of refractory alloys with differing intensities of the phase transformations (intensively ageing ЭИ437 (EI481) and other

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Methods of Extrapolating ... 23724 S/148/61/000/005/008/015 E073/E535

Fe-Cr-Ni-Mn steels with alloying additions of Mo, W, V and Nb, medium ageing [illegible] (EI395) and low ageing [illegible] (EI572, steels have shown that after the main part of the stress has been exhausted and the structure (structural and volume changes) has practically stabilized, the σ-τ graph shows a stable rectilinear section which is suitable for reliable extrapolation of the results. Fig.4 shows the main graphs in σ-τ and ln σ-t coordinates obtained on the basis of 20 to 30 tests on each of the steels. The time until the section of curves in both systems becomes rectilinear can be determined from the intensity of the phase transformations. For steels which age intensively, the rectilinear section [illegible], representing a relatively uniform speed of decrease in the stress, sets in earlier for the curve in σ-τ coordinates (plot [illegible]) than for the curve in ln σ-t coordinates (plot [illegible]). In steels with medium ageing (plots [illegible] and [illegible]) the rectilinear section is practically the same in both plots. For steels with slow ageing (plots [illegible] and [illegible]), the section of the curve expressing a uniform speed of decrease in the stress sets in earlier in the semilogarithmic plot. Fig.1 shows resul...

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of long-run relaxation tests on ring specimens of the steel EI572 with equal bending strength as proposed by M.A. Oding. The tests were started by the author jointly with A.V. Boyeva and were terminated by Candidate of Technical Sciences L.Ya. Liberman. The test conditions are given in the table. The test temperature (580 °C) was below the critical (600 °C) so as to prevent appreciable relaxation softening caused by intensification of the processes of coagulation and spheroidization of finely dispersed phases and also to prevent rejection of the σ-phase. The initial stresses σ_0 were chosen so as to obtain relaxation curves of differing configurations and with differing length of the first section of the curve. The plots Fig.1, show the results of the longest investigations; the arrows in the graphs indicate the points of bending of the curves, i.e. the transition from curvilinear to rectilinear sections. Preliminary ageing at 800°C enabled shortening considerably the length of the initial curvilinear section in natural coordinates, the length of which was 1000 hours (curve 2) after ageing at 700°C (curve 1) this time amounted to 13150 hours. Curve 3 did not reach a rectilinear section even after 20200 hours. The duration of the curvilinear

section for the curves 1 and 2 in the system in $\sigma - \tau$ is about half that in the system $\sigma - \tau$. Under the loading conditions III the duration of section 1 in the coordinates ln $\sigma - \tau$ is considerably smaller than for the coordinates $\sigma - \tau$. Thus, for all the investigated loading conditions and stresses the curves pertaining to steel EI572 had a considerably longer curvilinear section in the coordinates $\sigma - \tau$ than in the coordinates ln $\sigma - \tau$. In the same way as for creep, the presence of a section of a relatively uniform speed of decrease in the stresses enables determining the average relaxation speed for the given section of the curve by means of the formula:

$$v_{rel} = \frac{\sigma_1 - \sigma_2}{\tau_2 - \tau_1} \text{ kg/mm}^2\text{.hour}$$

The possibility of determining the average relaxation speed enables considering the earlier proposed term of "conventional limit relaxation stress" (see Ref.8) as a real and justified quantity. If the curve has a sufficiently long section with a

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E073/E535

stable uniform speed of decrease of the stress, the extrapolation can be carried out using the average value of the relaxation speed v_{rel} during the given period of time. If the curve does not have a sufficiently long rectilinear section in natural coordinates, the curve has to be drawn in the coordinates $\ln \sigma - \tau$ and the extrapolation carried out on the basis of the exponential law of decreasing stress. In the case of tests of relatively short durations and at relatively high speeds of relaxation, the extrapolation method proposed by I. A. Oding (Ref. 5: DAN SSSR, Vol. 71, 1950, No. 5, 883-886) is the only possible and fully satisfactory method. There are 4 figures, 1 table and 11 references: 9 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Vsesoyuznyy zaochnyy lesotekhnicheskiy institut (All Union Correspondence Forestry Technology Institute)

SUBMITTED: April 5, 1960

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40657

18.8200

S/148/62/000/007/005/005
E193/E383

AUTHOR: Gintsburg, Ya.S.

TITLE: Evaluation of the time-to-rupture characteristics of fastening and reinforcing parts of stationary power-generating plant

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 7, 1962, 181 - 187

TEXT: Bolts and other fastening devices, used in the construction of stationary power plant and operating under conditions of stress relaxation, require periodical tightening-up, which is bound to affect the process of their deformation and fracture. This problem is discussed in the present paper with particular reference to the work of Ye.A. Kheyn (Energomashinostroyeniye, no. 11, 1959) who, in attempting to derive an expression for the time-to-rupture of parts operating at high temperatures under conditions of stress relaxation, made the following assumptions: 1) each re-loading (tightening-up) operation considerably increases the permanent deformation of

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the part; 2) fracture of parts operating under these conditions takes place without entering into the third stage of creep and without localized deformation (necking); 3) fracture takes place after a large number of tightening-up operations, the time intervals between the consecutive operations as well as the initial and final stress levels at each step remaining constant; 4) the process under consideration can be regarded as creep under a changing stress. Using the results of his earlier investigations as well as those obtained by other workers, the present author arrives at several conclusions. A) Periodical re-loading (tightening-up) of bolts causes not an increase but a decrease in the rate of irreversible strain and does not significantly affect its final magnitude. This is demonstrated in Fig. 2, showing the stress relaxation of steel ЭИ 572 (ЭИ572) tested at 560 °C under an initial stress of σ_0 = 30 kg/mm^2, which was increased twice (after 675 and after 24 200 hours) to the initial level; the upper curve shows the variation of stress (kg/mm^2, lefthand scale), the lower curve representing the variation in permanent deformation (ε, %, righthand scale).

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For this particular state of experimental conditions the rate of relaxation will continue to decrease up to the fourth tightening-up operation, remaining constant after each subsequent re-loading. B) Although it is true that some creep-resistant alloys (e.g. nimonics) fail in creep without formation of a neck, localized deformation is often observed in high-strength steel creep-test pieces, apart from the fact that the third stage of creep need not be accompanied by the formation of a neck. C) In practice, the time interval between the tightening-up operations is of the order of 10^4 hours and fracture under these conditions cannot be regarded as being caused by creep under a changing stress. D) Work carried out by Kheyn included the determination of "effective stress", i.e. the stress which under conditions of stress relaxation and repeated re-loading should lead to fracture of metal and cause creep at a rate equal to the average creep rate in the time interval under consideration. Since the concept of "effective stress" and the appropriate equations postulated by G. Vidal (Revue de Métallurgie, no. 7, 1956) relate to creep under alternating stress or to fatigue,

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they have no physical meaning when applied to stress relaxation with re-loading operations spaced at intervals of 10^4 hours.
E) For all the above reasons an analytical method of determining time-to-rupture of fastening and reinforcing parts of power-generating plant, proposed by Kheyn, cannot be regarded as based on valid physical foundations. There are 4 figures and 4 tables.

ASSOCIATION: Vsesoyuznyy zaochnyy lesotekhnicheskiy institut (All-Union Correspondence Lumber-engineering Institute)
SUBMITTED: January 28, 1961

S/148/62/000/007/005/005
E193/E383

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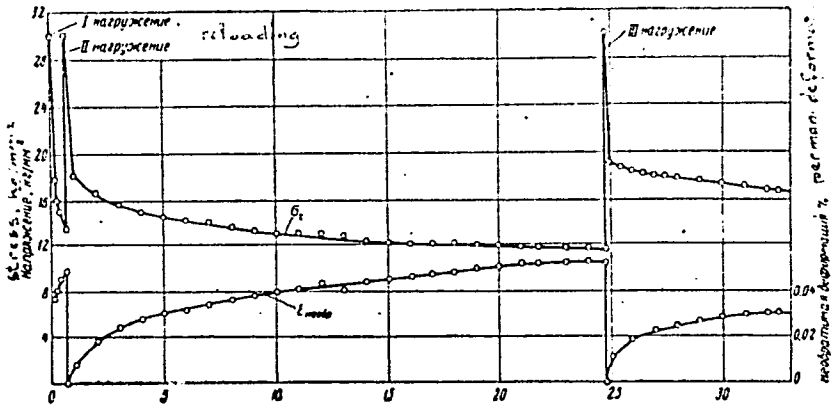
Fig. 2:



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GINTSBURG, Ya.S.

Evaluating the stress-rupture strength of fasteners on fixed equipment of electric power plants. Izv. vys. ucheb. zav.; chern. met. 5 no.7:181-187 '62. (MIRA 15:8)

1. Vsesoyuznyy zaochnyy lesotekhnicheskiy institut.
(Fastenings) (Electric power plants—Equipment and supplies)

L 16475-65 EWP(e)/EPA(s)-2/EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/EWP(v)/EPA(w)-2/EWP(t)/EWP(k)/EWP(b) Pab-10/Pf-4/Pt-10/Pu-4 AEDC(a)/SSD/ASD(m)-3/AFWL/AFETR/AFTC(a)/AFTC(b) JD/EM/WH S/ 4 8+1

ACCESSION NR AM4049794 BOOK EXPLOITATION

Gintsburg, YA. S.; Bobrov, A. G.

Apparatus for testing machine-building materials at high temperatures (Ustanovki dlya ispy*taniya mashinostroitel'ny*kh materialov pri vy*sokikh temperaturakh), Moscow, Izd-vo "Mashinostroyeniye", 1964, 194 p. illus., biblio. 3,500 copies printed.

TOPIC TAGS: test equipment, heat-resistant steel, ceramic, powder metallurgical material

PURPOSE AND COVERAGE: This book examines equipment for mechanical testing of specimens and parts from heat-resistant steels and alloys, powder metallurgical materials, ceramic and carbon machine-building materials at high temperatures and equipment for short-time and long-time testing of tensile strength and tests for thermal fatigue, and natural testing of turbine disks and rotors. The book is intended for engineers of plant laboratories and research institutes of the machine-building industry. It can be used by students of higher educational institutions.

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BATYAYKIN, V.G.; BOBROV, A.G.; GINTSBURG, Ya.S.

Uniform and concentrated deformations in hardened and tempered steel. Izv. vys. uchab. zav.; chern. met. 7 no.7:153-158 '64
(MIRA 17:8)

1. Vsesoyuznyy zaochnyy lesotekhnicheskiy institut.

GINTSBURG, Ye.L.

[Repair and use of bearings in electrical machinery] Remont i ekspluatatsiia podshipnikov elektricheskikh mashin. Moskva, Gos. energ. izd-vo, 1953. 109 p. (MLRA 7:6)
(Bearings (Machinery))

GINTSBURG, Ye. L., MIYUYEVA, N. G.

"Fundamental Principles of Combined Vaccination," ZhMEI, 7, 9-13, 1948

GINTSCHEFF P. Z.

EXCERPTA MEDICA Sec 4 Vol 12/11 Med. Micro. Nov 59

3479 NEW MEDIA FOR THE DIFFERENTIATION OF BACTERIA IN ROUTINE EXAMINATION - Neue Differentialnährböden für die laufenden Untersuchungen - Gintscheff P. Z. Sanit.-Epidemiol. Stat., Sofia, Bulgarien - ZBL. BAKT., I. ABT. ORIG. 1958, 173 1-2 (124-128)

A sensitive indicator changing its colour within narrow margins is described. This indicator was composed from 2 stock solutions, one 2% water blue and the other one 1% phenol red. Both solutions were mixed immediately before the preparation of the media. A lactose medium for the detection of pathogenic enterobacteria contained per l. 20 ml. of the first and 10 ml. of the 2nd solution, while a saccharose-urea medium for differentiation of corynebacteria and a stock solution for fermentation tests each contained 4 ml. of the first and 4 ml. of the 2nd solution per l. The indicator was brown at pH 7.2, red at alkaline and green at acid reaction. On the lactose colour medium E. coli produces dark green colonies; other bacteria including the pathogens are greenish, yellow, orange, pink or red. Proteus does not swarm. On the corynebacteria medium C. xerosis produces a green colour 6 hr. after inoculation. C. pseudodiphtheriae is red while C. diphtheriae did not produce any change in colour.

Olitzki - Rome

GINTSE, I.K.

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Pyridine dyes with negative substituents in the aromatic rings and 1-aryl quaternary salts of pyridine. N. B. Grigor'eva and I. K. Gintse (Kharkov State Univ.). *Ukrain. Khim. Zhur.* 16, 80–90 (1950) (in Russian).—In the presence of pyridine, 1-(2,4-dinitrophenyl)pyridinium chloride (I) is cleaved by aromatic amines having acc. groups, with formation of the corresponding dyes, by decompn. of which 1-aryl quaternary pyridine salts are obtained. Heating 2.0 g. I with 2.5 g. *p*-$H_2NC_6H_4CO_2H$ and 6 ml. abs. EtOH in 2 ml. pyridine 1 hr. on a steam bath gave a ppt. of a red dye, which was washed with Et_2O and H_2O. The pure product (blue needles, m. 138° (from MeOH), was identified as (*p*-$HO_2CC_6H_4NHCH$:$CHCH$:$CHCH$:$NRC_5H_4CO_2H$-*p*)-Cl^- (II), absorption max. at 608 mμ in EtOH and 643 mμ in ale. NaOH. The dye forms a red *hemiacetate*, m. 170°. Decompn. of the dye with ale. HCl gave *1-(p-carboxyphenyl)-pyridinium chloride* (III), colorless infusible solid; alkali yields a cheesy *pseudobase*; the quaternary salt forms *double salts* with: $FeCl_3$, green-yellow, decomp. 180°; $HgCl_2$, decomp. 167–8°; *dipicrate*, decomp. 157°. Similar reaction of I with anthranilic acid gave the *1,6-(o-*$HO_2CC_6H_4NH)_2$ *isomer* of II crystg. from MeOH in *3 forms*: red (violet after drying at 60–70°), m. 132°, and free of Cl, whose compn. was uncertain, and an orange form, m. 140°, which does contain the proper amt. of Cl, and has absorption max. at 523 mμ in EtOH and 545 mμ in ale. NaOH. The dye decompd. with HCl in EtOH to the *1-(o-*$HO_2CC_6H_4$) *isomer* of III, whose $HgCl_2$ *salt* decomp. 170°; $FeCl_3$ *salt*, m. 130°; *dipicrate*, decomp. 155°; the *free quaternary salt* forms colorless crystals which turn yellow in air. I refluxed 20 min. with *p*-$H_2NC_6H_4CO_2Et$ in MeOH gave the blue-violet *1,3-(p-*$EtO_2CC_6H_4NH)_2$ *analog* of II, m. 30–40°, absorption max. at 615 mμ in EtOH and 668 mμ in ale. NaOH. Decompn. of this with ale. HCl gave after 5–6 hrs. the *1-(p-*$EtO_2CC_6H_4$) *analog* of III which could not be recrystd. after the initial evapn.; a pure specimen, obtained by pptn. with Et_2O from abs. EtOH, m. 203°; *picrate*, m. 143°. I heated 1 hr. with sulfanilic acid (IV) in EtOH in the presence of pyridine gave a red-orange *dye* consisting of a mixt. of the sym. and unsym. products, confirmed by the amt. of I consumed. I (2 g.) heated 30 min. in 10 ml. EtOH with 2.45 g. IV in 3 ml. pyridine and allowed to stand overnight gave 1.63 g. red product with a small admixt. of colorless crystals, indicating, by the amt. of dinitroaniline formed, that 25–30% sym. dye was formed. Heating the product with HCl gave a little IV and the filtrate, with picric acid, gave 1-(2,4-dinitrophenylpyridinium) picrate, m. 147°, whose formation must be ascribed to decompn. of the unsym. dye. The evapd. mother liquor yielded infusible *1-(p-sulfophenyl)pyridinium* salt, which with alkali gave a yellow color. The salt after pptn. from EtOH by Et_2O, is $C_{11}H_{11}NSO_4.EtOH$.

G. M. Kosolapoff

(1)

GINTSE, I. K.

Cleavage of pyridine 2,4-dinitrochlorophenylate by nitroanilines. N. E. Tikhonova, I. K. Gintse and M. I. Rozenberg (A. M. Gorki State Univ., Kharkov). *Sbornik Statei Obshchei Khim.* 2, 1448-52(1953); cf. *C.A.* 48, 11411*af*.—Cleavage of pyridine 2,4-dinitrochlorophenylate (I) by p-$O_2NC_6H_4NH_2$ in EtOH in the presence of pyridine yields *1-(2,4-dinitrophenylamino)-5-(p-nitrophenylamino)-penta-1,3-dien-5-ylidene chloride*, violet, m. 140–1° (from EtOH, retaining some EtOH); green, m. 158–60° (from reaction mixt., in AcOH-HCl mixt.). Use of p-$O_2NC_6H_4$-NH_2 in the above reaction gave *1,5-bis(o-nitrophenylamino)-1,3-pentadien-5-ylidene chloride* (II), red, m. 142–3°; the use of m-$O_2NC_6H_4NH_2$ gave the *m-nitrophenylamino analog* (III), orange, m. 136–7°. *Pyridine p-nitrochlorophenylate* which does not m. up to 300°, is obtained from I and p-$O_2NC_6H_4$-NH_2 in hot EtOH; it forms a salt with $2HgCl_2$, m. 153–4.5° (from H_2O). II heated with MeOH and concd. HCl 0.5 hr. gave o-$O_2NC_6H_4NH_2$, but III gave *pyridine m-chlorophenylate*, isolated as *salt* with $HgCl_2$, m. 172°; treatment with H_2S gave the free *quaternary salt*, m. 130°, red powder.

G. M. Kosolapoff

GINTSE, I. K.

USSR/Chemistry - Dyes

Card 1/1 Pub. 151 - 31/36

Authors : Grigoryeva, N. E., and Gintse, I. K.

Title : Pyridine dyes derivatives of diphenyl

Periodical : Zhur. ob. khim. 24/1, 169-174, Jan 1954

Abstract : The synthesis of three hitherto unknown pyridine dyes : 1,5-bis-(4-amino diphenyl)-pentadiene-1,3-ylidene-5;chloride; 1,5-bis-(4-nitro-4'-aminodiphenyl)-pentadiene-1,3-ylidene-5 chloride and 1,5-bis-(p-aminochlorodiphenylate pyridine)-pentadiene-1,3-ylidene-5 chloride is announced. It is shown that the heating of dyes of benzidine and 4-aminodiphenyl derivatives is followed by an isomeric conversion of the molecule without cleavage of the amine. The derivation of four hitherto unknown quaternary pyridine salts is described. Three references: 1-USSR and 2-German (1904-1952). Table.

Institution : The A. M. Gorkiy State University, Kharkov

Submitted : July 6, 1953

GINTSE, I. K.

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Reaction products of pyridine 2,4-dinitrochlorophenylate with diamines. N. E. Grigor'eva and I. K. Gintse (State Univ., Kharkov). Zhur. Obshchei Khim. 26, 232-40; J. Gen. Chem. U.S.S.R. 26, 249-64(1956)(Engl. translation). — Heating 5.2 g. [2,4-(O₂N)₂C₆H₃RCl] (R = pyridinium) (I) with 1 g. p-$C_6H_4(NH_2)_2$ (II) in EtOH 10 min. gave a dark ppt. which after washing with H_2O and Me_2CO left behind 76% 1,5-bis(p-phenylenediamino)-1,3-pentadien-5-ylidene chloride, dark-red, m. 167° (contains 0.5 EtOH), for which a satisfactory crystn. solvent could not be found. Heating to 128-33° resulted in sublimation of some p-$C_6H_4(NH_2)_2$; removal of the latter with hot Me_2CO gave a brown residue, which yielded 60% (p-$RC_6H_4NH_2$)Cl (III), yellow (from EtOH-Et_2O), m. 252°, which contained 0.5 mole EtOH; picrate, yellow, m. 134° (from EtOH and H_2O). I (1 g.) and 1.3 g. II HCl salt heated in 5 ml. EtOH and 2 ml. pyridine 15 min. on steam bath gave a red ppt. (initially violet), which after washing was chromatographed on Al_2O_3 yielding green {p-[2,4-$(O_2N)_2C_6H_3NHCH:CHCH:CHCH:$-$NH]C_6H_4NH:CHCH:CHCH:CHNHC_6H_3(NO_2)_2$-2,4}Cl, m. 240°, λ 505 mμ (EtOH), 503 (EtOH-HCl), 600 (HCO_2H). Refluxed with pyridine 1 hr., filtered and evapd. this gave some dinitroaniline and III, isolated as the picrate; washing the residue with H_2O gave an unidentified green product. Heating I with p-$C_6H_4(NHAc)_2$ in EtOH gave 55% (R'-$NHCH:CHCH:CHCH:NHR'$)Cl (IV, R' = p-AcNH-C_6H_4), violet, m. 147° (from AcOH), which heated to its m.p. and treated with H_2O gave (p-RC_6H_4NHAc)Cl, m. 276-7° (from EtOH-Et_2O); picrate, yellow, m. 189°. I and p-$Me_2NC_6H_4NH_2$ gave 57% violet IV (R' = p-$Me_2NC_6H_4$), m. 147° (from EtOH), which heated with H_2O

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GRIGOR'EVA, N.E. GIETSE, I.K.

gave 63% yellow (*o*-$RC_6H_4NMe_2$)*Cl* (V), m. 114° (contains 1 mole EtOH). V as the HCl salt treated with 20% NaOH gave green *1-(p-dimethylaminoanilino)-1,3-pentadien-5-al*, decomp. 240°, λ 635 (CH_2Cl_2), 480 (Me_2CO), 470 (EtOH). I (1 g.) and 1.6 g. III heated 5 min. in EtOH, treated with 1 ml. pyridine and heated until I had reacted (2 hrs.) gave 0.9 g. orange-red solid, which repptd. from EtOH with Me_2CO gave pale yellow (*p*-$C_6H_4R_2$)2*Cl*, m. 285° (from EtOH-Et_2O) (contains 1.25 moles EtOH); *picrate*, m. 233°. I (23 g.) in EtOH heated with 18 g. *m*-$C_6H_4(NH_2)_2$ 0.5 hr. gave 19 g. brown-red IV (R' = *m*-$H_2NC_6H_4$), m. 198-200° (contains 2 moles EtOH); heated to 182° to incipient melting, it gave a brown solid which was passed over Al_2O_3 in EtOH and the effluent soln. treated with Et_2O yielding a brown solid, m. 268°, a compd. of 2 moles (*m*-$RC_6H_4NH_2$)Cl (VI) and 1 mole diamine with 2 EtOH. The residual soln. treated with more Et_2O gave yellow needles of VI, m. 78° (contains 0.5 mole EtOH). I (1.2 g.) and 1 g. *o*-$C_6H_4(NH_2)_2$ in EtOH heated 3 min. gave 0.8 g. almost black IV (R' = *o*-$H_2NC_6H_4$), m. [illegible] [illegible] thermal [illegible] aniline [illegible] The benzidine deriv. [illegible] [illegible] on cooling the soln. was neutralized with NH_4OH, yielding yellow (*p*-$RC_6H_4NH_2$)*Cl*, m. 207° (from EtOH), which has 1 NH_2 group available for diazotization. This (0.5 g.) and 0.6 g. I heated in EtOH with 2 ml. pyridine 15 min. and kept 12 hrs. gave 57% red IV [R' = (*p*-RC_6H_4)Cl], which does not melt, but decomp. on heating; the product, $C_{42}H_{44}N_6Cl_4$, contains 3 moles EtOH. Thus unsubstituted diamines can react with quaternary pyridinium salts in 2:1, 1:1, and 1:2 proportions. G. M. Kosolapoff

8/2 [illegible]

GINTSE, I. K.

3

Influence of acids and alkalies on absorption spectra of pyridine dyes. H. E. Grigor'eva, I. K. Gintse, and A. P. Severina (State Univ., Kharkov). *Zhur. Obshchei Khim.* 26, 3096-104(1956); cf. *C.A.* 50, 13778b.—Absorption spectra of several pyridine-base dyes were examd. in 96% EtOH, and in EtOH with varying amts. of HCl, CO_2 or AcOH; some spectra were examd. also in alc. solns. with varying amts. of NaOH. The pyridine dyes in aq. EtOH undergo hydrolysis which is more intense in cases of compds. with lower basicity of the cation; any acid added to the soln. shifts the equil. in the direction of the dye salt; while alkali shifts the equil. in the direction of the base if the dye contains electron-donor groups; with electron-acceptor groups the addn. of alkali yields deeply-colored anionic dyes. The aniline-base pyridine dyes are decolorized in concd. H_2SO_4 owing to salt formation, these reverting to the original dyes on dilu. The following abs. max. were noted in EtOH and EtOH with excess HCl, resp., for the following dyes of type $RNH(CH)_3{:}NHEtCl$ (R shown): Ph, 485 mμ, 485 mμ; *p*-MeC_6H_4, 495, 495; *p*-$MeOC_6H_4$, 600, 600; *p*-HOC_6H_4, 505, 505; *p*-$Me_2NC_6H_4$, 560, 560; 1-$C_{10}H_7$, 410, 480, 2-$C_{10}H_7$, 422, 510; *p*-$EtO_2CC_6H_4$, 505, 505; *p*-$HO_2CC_6H_4$, 500, 500; *m*-$O_2NC_6H_4$—, 500; *p*-$O_2NC_6H_4$, 410, 527. The various spectra are reproduced. Treatment of Na enolate of glutaconaldehyde (prepd. from excess NaOH and pyridine-SO_3) with *p*-$O_2NC_6H_4NH_2$ in EtOH, in the presence of a little HCl gave *N-(p-nitrophenyl)-5-(p-nitrophenylamino)-1,3-pentadienylamine-HCl*, violet, m. 143-4°, which retains EtOH.

G. M. K.

GINTSE, I. K.

Chem

Products of reaction of β-picoline with 2,4-dinitrochloro-benzene. N. E. Grigor'eva, I. K. Gintse, and N. G. Karpyuk (State Univ., Kharkov). *Zhur. Obshchei Khim.* 26, 3456-62(1956); cf. *Uchenye Zapiski Khar'kov. Gosudarst. Univ.* 30, 81(1950).—3-Methylpyridine was purified by treatment with $CuCl_2$ and with mixt. of phthalic and acetic anhydrides refluxing 6 hrs. The pure material, b. 144°; picrate, m. 152°. This (2.0 ml.) and 1.6 g. 2,4-dinitrochlorobenzene (I) heated briefly to form a soln., then treated with 20 ml. dry Et_2O and kept 1 day gave *3-methylpyridine 2,4-dinitrochlorophenylate* (II), m. 160°, in 45.5% yield. If the components are heated 5 min. at 60°, the same product forms. The salt treated with 15% NaOH gave the red *monoanil of β-methylglutaconaldehyde*, m. 161° (from MeOH). Heating the salt with aromatic amines in EtOH at 30-40° gave on pptn. with aq. HCl the corresponding *2,4-$(O_2N)_2C_6H_3NHAr$* (Ar shown): *Ph*, red-brown, m. 145°, λ 485 mμ; *p-$MeOC_6H_4$*, m. 142°, red-violet, λ 495; *p-$EtOC_6H_4$*, blue-violet, m. 130°, λ 496. In the prepn. of II above there also formed a violet polymethine dye from the reaction of II with 2 moles 3-methylpyridine; this substance pptd. from MeOH or Me_2CO with Et_2O, was analyzed as *$C_{24}H_{20}O_4N_4Cl.0.5Me_2CO$*, m. 157° (from MeOH), or m. 169° (from Me_2CO); this passed over Al_2O_3 gave an upper yellow zone, and lower violet zone. The latter eluted with Me_2CO gave the pure *polymethine* (III), contg. 13.7% N and 11.5-12% Cl, deep violet, m. 130° (heated over P_2O_5 at 70° 1 hr. it gave some I in the sublimate and gave pure *$C_{24}H_{20}O_4N_4Cl$*, a dark solid). The yellow chromatographic zone,

N. E. Grigoreva, I. K. Gintse [illegible]

above, gave a brown solid which was a decompn. product of the polymethine compound, infusible and apparently $C_{11}H_{14}N_2$. II was also cleaved by pyridine at 120° in 5-7 min., yielding $C_{11}H_{14}N_2.H_2O$, m. 103-71°, apparently a pentamethine dye of II and pyridine; pyridine did not decomp. pyridine 2,4-dinitrochlorophenylate at 130°. III repeatedly treated with MeOH gave a deep violet base (IV), $C_{16}H_{18}O_4N_4$, decomp. 147°, on treatment with aq. Na_2CO_3. III with aq. MeOH NaOH gave a blue color followed by pptn. of colorless 2,4-dinitroanisole. IV was apparently 2,4-$(O_2N)_2C_6H_3(N:CHCMe:CHCH:CH)_2N:CHCMe:CHCH:CHOH$. G. M. Kosolapoff

AUTHORS: Grigor'yeva, N. Ye., Gintse, I. K. SOV/79-28-6-55/63

TITLE: Monoanils of Glutacone Aldehyde (Monoanily glutakonovogo dial'degida) II. The Influence of the Medium on the Color of the Derivatives of Primary Aromatic Amines (II. Vliyaniye sredy na okraski proizvodnykh pervichnykh aromaticheskikh aminov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1682 - 1689 (USSR)

ABSTRACT: The problem concerning the influence of the medium on the color of the organic compounds has interested scientists already since long. The unsalty intraionoic dyes are especially sensitive to changes of the medium. Many hypotheses have already been suggested for this problem (Refs 1-5). That by Kiprianov and his collaborators is widely acknowledged (Ref 6) as are those by other authors (Ref 7) who deal with the dependence of the color change of the intraionoic dyes on the polarity of the solvent. According to this conception the dyes are divided into three types: Some deepen the color with the decrease of the dielectric constant of the solvent (1st type), the others increase it on the same conditions (2nd type), and the rest have an intermediate position (3rd type). The monoanils of glutacone aldehyde as derivatives

Card 1/3

Monoanils of Glutacone Aldehyde. II. The Influence of 30979-28-6-55/63
the Medium on the Color of the Derivatives of Primary Aromatic Amines

of the primary aromatic amines are tautomeric compounds the structure of which can be represented by the mentioned formulae of scheme 1. They belong to the intraionoic compounds. Each of the mentioned formulae can be represented in form of a dipolar ion. They easily react on changes of the medium by changing their own color in various "neutral" solvents and in the presence of acids and alkali liquors. However, different from the earlier investigated intraionoic compounds (Refs 6,7) no fixed dependence of the color change on the polarity of the solvent was noticed. Therefore the authors had to investigate this problem more in detail: The relatively good solubility of the monoanils made it possible to determine their absorption spectra in many organic solvents. Thus eight monoanils of glutacone aldehyde were investigated this way. It was shown that the absorption change of these monoanilines in various solvents is connected with the structure of the complexes of the monoanil as well as with the solvent as such in the case of an equivalent possibility of conversion. Thus some considerations on the causes of the color change of the monoanils of glutacone aldehyde in various solvents, in the presence of acids and alkali liquors are mentioned.

Card 2/3

Monoanils of Glutacone Aldehyde. II. The Influence of 307/79-28-6-55/63
the Medium on the Color of the Derivatives of Primary Aromatic Amines

It is shown that there is no principal difference between solvatochromism and halochromism. There are 4 figures, 3 tables, and 13 references, 4 of which are Soviet.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University)

SUBMITTED: April 12, 1957

1. Organic compounds--Chemical properties

Card 3/3

5 (3) SOV/79-29-3-24/61

AUTHORS: Grigor'yeva, N. Ye., Gintse, I. K., Afanas'yeva, Z. M.

TITLE: Pyridine Dyes, Derivatives of the Secondary Amines (Piridinovyye krasiteli-proizvodnyye vtorichnykh aminov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 865-869 (USSR)

ABSTRACT: There are only little data available on these dyes (Refs 1,2). As to color and chemical properties they are considerably differing from the corresponding derivatives of the primary amines. It can be seen from a comparison of the data presented in table 1 that the unsubstituted dye is colored more intensely than the corresponding N-alkyl-substituted dyes and that the substitution of the phenyl radicals for the hydrogens of the amino groups is without any effect on the shift of the absorption maximum. The aniline derivative is readily hydrolyzed; the acid suppresses hydrolysis; in acid solution the extinction coefficient increases by more than two times whereas the absorption intensity of the secondary amine derivatives is hardly changed by the addition of acid. It could be concluded from a comparison of the data given in table 1 that the derivatives of the secondary amines are not hydrolyzable.

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Pyridine Dyes, Derivatives of the Secondary Amines

Table 1 illustrates the results of the optical changes of the freshly prepared solutions; on the determination of the variation in the color intensity of the dyes in the time course, in dependence on the concentration, it can be seen that the derivatives of the secondary amines hydrolyze as well, the more rapidly the less the basicity of the cation and the concentration of the dye is. As can further be seen the N-methyl-substituted dye hydrolyzes least, considerably, however, the diphenylamine derivative. These facts show that the hydrolysis of derivatives of the secondary amines is also related to the basicity of the cation the degree of which is determined not only by the nature of the radical but also by its volume. Figures 1 and 2 present the absorption spectra of the dyes of the diphenylamine and methylaniline derivatives in neutral, alkaline and acidified alkaline medium. Figures 3 and 4 give the spectra of the corresponding monoanils of the glutaconic aldehyde. Four N-substituted pyridine dyes and two monoanils of the glutaconic aldehyde were synthesized. Four preparations are new. It is assumed that the peculiarities in the dyeing of the N-alkyl-substituted dyes and their cleavage

Pyridine Dyes, Derivatives of the Secondary Amines

under the influence of alkali liquor are due to difficulties of the spatial arrangement which is indicated by their absorption spectra. There are 4 figures, 3 tables, and 9 references, 2 of which are Soviet.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University)

SUBMITTED: January 2[8], 1958

Card 3/3

5.3610

78305
SOV/79-30-3-59/69

AUTHORS: Grigor'yeva, N. Ye., Gintse, I. K., Lyubitskaya, T. A.

TITLE: Products of Hydrogenation of N-phenylpyridinium Chloride. Condensation of N-phenylpiperidinium Hydrochloride With p-Dimethylaminobenzaldehyde

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 1031-1037 (USSR)

ABSTRACT: This is a continuation of previous work (N. Ye. Grigor'yeva, A. B. Organes'yan, I. A. Mysh, ZhOKh, 27, 1565, 1957) on hydrogenation of N-phenylpyridinium chloride (I) over a platinum catalyst under different conditions. The method used was described previously (see above reference). Condensation of N-phenyl-piperidinium hydrochloride (II) with p-dimethyl-aminobenzaldehyde (III) was also studied. It was found that an hydrogenation of (I) over a platinum catalyst, a mixture of N-phenyl- and N-cyclo-hexylpiperidinium hydrochlorides is formed. The

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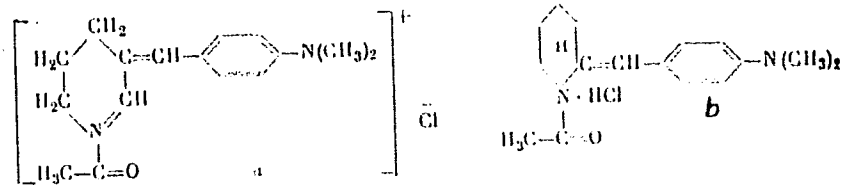
hexylpiperidinium hydrochlorides is formed. The ratio of the two hydrochlorides in the mixture depends on the conditions of hydrogenation. Condensation of (II) with (III) in acetic anhydride first forms a blue dye. The latter is unstable and on heating decomposes with formation of a red dye. The blue dye was not isolated. Its color is very close to that of Michler's benzhydrol, and it is possible that they are analogs. The red dye is slightly soluble in water, more soluble in alcohol and dichloroethane. It does not crystallize, and has the following absorption maxima: in alcohol 496, in water 504, and in dichloroethane 504 mμ. It is suggested that the red dye is a salt with structure a:

Products of Hydrogenation of N-phenyl-pyridinium Chloride

78305
SOV/79-30-3-59/69



There are 2 figures; 2 tables; and 5 references, 1 U.S., 2 German, 2 Soviet. The U.S. reference is: C. F. Winans, H. Adkins, J. Am. Chem. Soc., 54, 306 (1932).

ASSOCIATION: Kharkov State University (Kharkovskiy gosudarstvennyy universitet)

SUBMITTED: September 1, 1958

Card 3/3

GRIGOR'YEVA, N.Ye.; SHCHERBAKOVA, L.I.; GINTSE, I.K.

Catalytic hydrogenation of dianils of glutaconaldehyde and their salts (pyridine dyes). Ukr.khim.zhur. 28 no.7:848-851 '62. (MIRA 15:10)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M.Gor'kogo.
(Dyes and dyeing) (Glutaconaldehyde) (Aniline)

TSUKERMAN, S.V.; GINTSE, I.K.; LAVRUSHIN, V.F.

Synthesis of unsaturated ketones containing furan and thiophene rings. Zhur.ob.khim. 33 no.7:2382-2387 Jl '63. (MIRA 16:8)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M.Gor'kogo.
(Ketones) (Thiophene) (Furan)

TSUKERMAN, S.V.; GINTSE, I.K.; LAVRUSHIN, V.F.

Spectra and halochromism of α,β-unsaturated ketones containing furan and thiophene rings. Zhur. ob. khim. 34 no.7: 2317-2321 Jl '64 (MIRA 17:8)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M.Gor'kogo.

GINTSE, I. A.

USSR/Medicine - Typhoid Mar 53

"Investigation of the Dependence of the Immunogenic Activity of Typhoid Vaccine on the Number of Strains Which Enter Into It," L. A. Gintse, Control Inst of Sera and Vaccines imeni L. A. Tarasevich

"Zhur Mikrobiol, Epidemiol, i Immunobiol" No 3, p 79

If strains of typhoid bacteria with a high immunogenic activity are used, one may obtain /from a single strain/ a vaccine which is no less effective than that prepared from several strains. and which may even be superior to the latter in immunogenic activity.

244T47

GINTSE, L.A.

Method for obtaining nontoxic antigens. ?. L. Lyuney, L. A. Gintse, and S. I. Chernyakhovsk. *Voprosy Med. Khim.* 6, ?-7(1950); *Referat. Zhur., Khim.* 1954, No. 13076.—The complete antigen extd. with trichloroacetic acid from the typhoid bacillus was acetylated with Ac_2O for 1.5-24 hrs. This caused the sepn. of the antigen into 2 parts, one pptg. and the other remaining in soln. The N content decreased from 3.5 to 2.8, reducible substances from 45 to 32, and P decreased. The toxicity decreased to $^1/_{10}$ and less while retaining good immunogenicity, particularly the part which pptd. Acetylation for 48 hrs. destroyed the toxic as well as the immunizing property of the antigen. Phosphorylation with $POCl_3$ in pyridine did not lower the toxicity. Partial hydrolysis of antigens caused a decrease in the reducible substances from 45 to 34% and phosphate decreased. The toxicity of the prepns. was greatly lowered thereby, while the immunogenicity was retained at the same level as before. M. Hosch

GINTSE, L.A.

Biological and chemical properties of complete antigens extracted from the media of typhus cultures and subjected to detoxication. L. A. Gintse and V. I. Ivanov. *Zhur. Mikrobiol. Epidemiol. i Immunobiol.* 1954, No. 8, 33-6.—Immunogenic properties of antigens were assayed by detg. the minimal immunizing dose which, after 2 applications, insured survival of 60% of mice which were infected with lethal doses of typhus culture Ty_2-446. Animals were observed for 72 hrs. Complete antigens were prepd. from culture media by pptn. with trichloroacetic acid. Acetylation and partial hydrolysis of the antigens resulted in a 20-fold decrease in its toxicity. Passive and active immunizing activity was decreased by acetylation of the antigens; partial hydrolysis, on the other hand, had little, if any, effect on the immunizing properties of the antigen.

J. A. Stekol

Iz Gosudarstvennogo kontrol'nogo instituta imeni Prof. L. A. Tarasevicha(dir. S. I. Didenko).

USSR/Microbiology - Microbes Pathogenic for Man and Animals. F
Bacteria. Bacteria of the Intestinal Group.

Abs Jour : Ref Zhur Biol., No 22, 1958, 99391

Author : Gintse, L.A.
Inst :
Title : Significance of the Experimental Determination of Toxicity of Typhoid and Paratyphoid Cultures in the Evaluation of Their Immunological Activity.

Orig Pub : Zh. mikrobiol., epidemiol. i immunobiologii, 1958, No 4, 27-31

Abstract : No abstract.

Card 1/1

GINTSE, L.A.

Vi-antigen as a criterion in the selection of Salmonella typhosa for production of vaccines and its role in virulence and immunogenesis of typhoid cultures, author's abstract. Zhur.mikrobiol.epid. i immun. 29 no.2:109-110 F '58. (MIRA 11:4)

1. Iz Gosudarstvennogo kontrol'nogo instituta imeni Tarasevicha.
(SALMONELLA TYPHOSA, culture,
vaccinal strains, Vi-antigen in selection & in virulence & immunogenesis in cultures (Rus)

GINTSE, L.A.

Significance of the experimental determination of the toxicity of typhoid and paratyphoid cultures in determining their immunological activity. Zhur.mikrobiol.epid. i immun. 29 no.4:27-31 Ap '58.
(MIRA 11:4)

1. Iz Gosudarstvennogo kontrol'nogo instituta vaktsin i syvorotok im. Tarasevicha.

(SALMONELLA TYPHOSA,
virulence, determ. in evaluation of immunol. properties (Rus)
(SALMONELLA PARATYPHI,
same)

GINTSE, L.A.

Preventive properties of immune sera as a criterium in the determination of immunogenic properties of typhoid cultures in vaccinal preparations. Zhur. mikrobiol. epid. i immun. 29 no.10:93-98 O '58. (MIRA 11:12)

1. Iz Gosudarstvennogo kontrol'nogo instituta syvorotok i vaktsin imeni Tarasevicha.

(TYPHOID FEVER, immunol.
prev. properties of immune sera in determ. immunogenic properties of typhoid culture in vaccinal prep. (Rus))

GINTSE, L.A.

Relationship between the preventive properties of immune typhoid sera and certain antibodies. Zhur.mikrobiol.epid. i immun. 30 no.4:61-66 Ap '59. (MIRA 12:6)

1. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh i biologicheskikh preparatov imeni Tarasevicha.
(TYPHOID FEVER, immunol.
immune sera, relation to certain antibodies (Rus))

GINTSE, L.A.

Dependence of the immunological effectiveness of complete antigens on the biological properties of typhoid strains used for their preparation. Zhur.mikrobiol.epid.i immun. 31 no.1:55-60 Ja '60.
(MIRA 13:5)

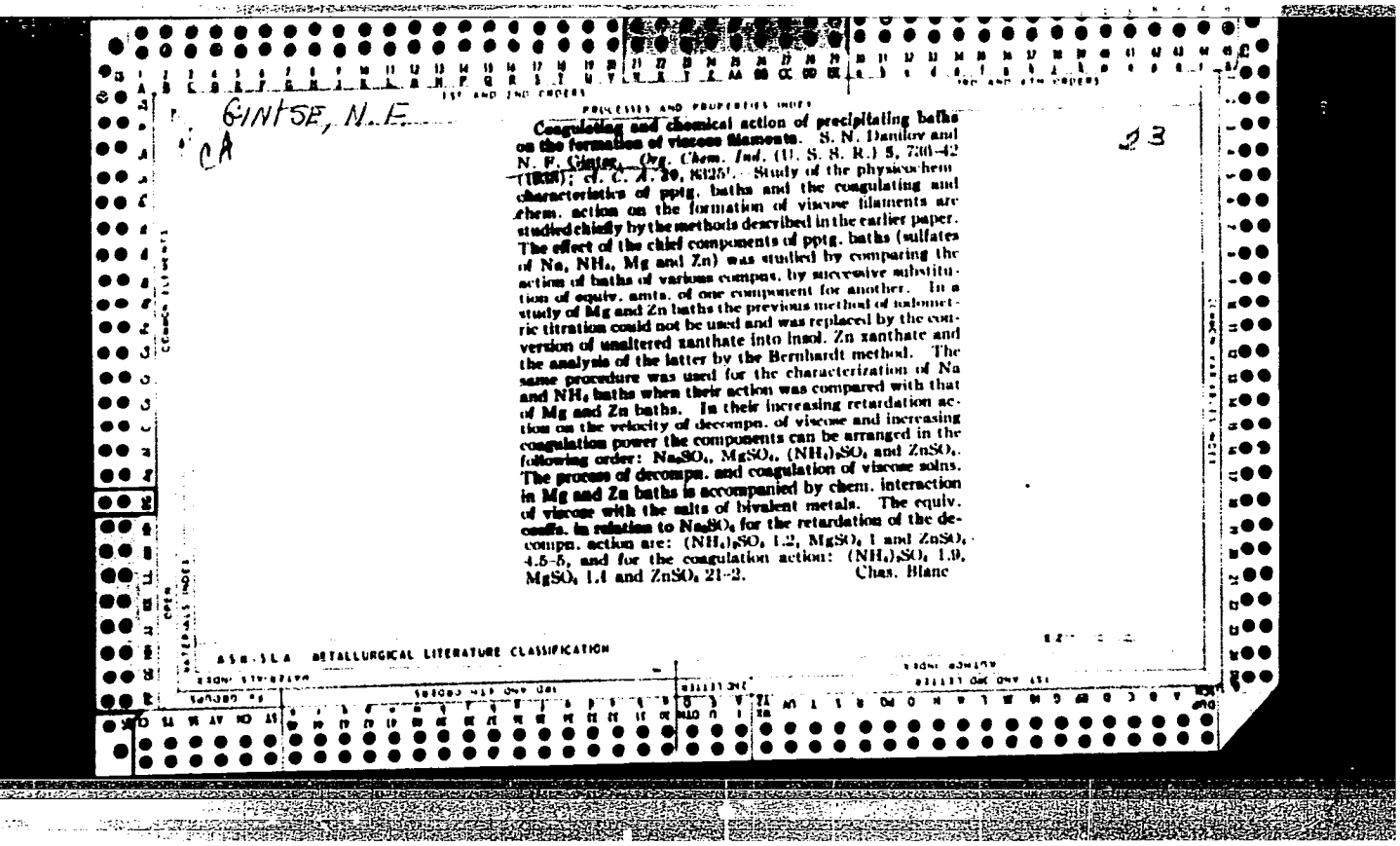
1. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh biologicheskikh preparatov imeni Tarasevicha.
(SALMONELLA TYPHOSA immunol.)

PODLEVSKIY, A.V.; KOGAN, V.Ya.; GORCHAKOVA, Yu.P.; YELIZAROVSKIY, G.I.; RYABOSHAPKA, A.P.; REZNIK, S.R.; GOLUBEV, T.I.; GINTSE, L.A.; RASKIN, M.M.; ZUYENKO, P.G.; KHOMIK, S.R.; KATSNEL'SON, I.A.; ZHILIN, S.I.; LYSENKOV, M.N.; ROMANOV, B.G.; SAVENKOV, D.A.; GIL', L.T.; LEVINA, Ye.S.; VOVKI, A.S.; POSLEDOV, F.F.

Annotations. Zhur.mikrobiol.,epid.i immun. 32 no.12:120-125 D '61. (MIRA 15:11)

1. Iz Leningradskogo instituta usovershenstvovaniya vrachey imeni Kirova (for Podlevskiy). 2. Iz Ukrainskogo nauchno-issledovatel'skogo instituta kommunal'noy gigiyeny (for Kogan). 3. Iz Voronezhskogo meditsinskogo instituta (for Gorchakova). 4. Iz Arkhangel'skogo meditsinskogo instituta (for Yelizarovskiy). 5. Iz Kiyevskogo instituta epidemiologii i mikrobiologii (for Ryaboshapka, Reznik). 6. Iz zavoda meditsinskikh preparatov Leningradskogo myasokombinata imeni S.M.Kirova (for Golubev). 7. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh biologicheskikh preparatov imeni Tarasevicha (for Gintse). 8. Iz Chitinskogo instituta epidemiologii, mikrobiologii i gigiyeny (for Raskin). 9. Iz Ternopol'skogo meditsinskogo instituta (for Zuyenko). 10. Iz Rostovskogo instituta epidemiologii, mikrobiologii i gigiyeny (for Khomik). 11. Iz Chelyabinskogo meditsinskogo instituta (for Gil', Levina, Vovki, Posledov).

(IMMUNOLOGY--ABSTRACTS) (EPIDEMIOLOGY--ABSTRACTS)



GINTSE, N. F.
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Coagulating and chemical action of precipitating baths on the formation of viscose filaments. S. N. Danilov and N. F. Gintse, *Org. Chem. Ind.* (U. S. S. R.) 5, 730–42 (1938); *C. C. A.* 39, 8125. Study of the physicochem. characteristics of pptg. baths and the coagulating and chem. action on the formation of viscose filaments are studied chiefly by the methods described in the earlier paper. The effect of the chief components of pptg. baths (sulfates of Na, NH_4, Mg and Zn) was studied by comparing the action of baths of various compns. by successive substitution of equiv. amts. of one component for another. In a study of Mg and Zn baths the previous method of iodometric titration could not be used and was replaced by the conversion of unaltered xanthate into Inol. Zn xanthate and the analysis of the latter by the Bernhardt method. The same procedure was used for the characterization of Na and NH_4 baths when their action was compared with that of Mg and Zn baths. In their increasing retardation action on the velocity of decompn. of viscose and increasing coagulation power the components can be arranged in the following order: Na_2SO_4, $MgSO_4$, $(NH_4)_2SO_4$ and $ZnSO_4$. The process of decompn. and coagulation of viscose solns. in Mg and Zn baths is accompanied by chem. interaction of viscose with the salts of bivalent metals. The equiv. coeffs. in relation to Na_2SO_4 for the retardation of the decompn. action are: $(NH_4)_2SO_4$ 1.2, $MgSO_4$ 1 and $ZnSO_4$ 4.5–5, and for the coagulation action: $(NH_4)_2SO_4$ 1.9, $MgSO_4$ 1.4 and $ZnSO_4$ 21–2. Chas. Blanc

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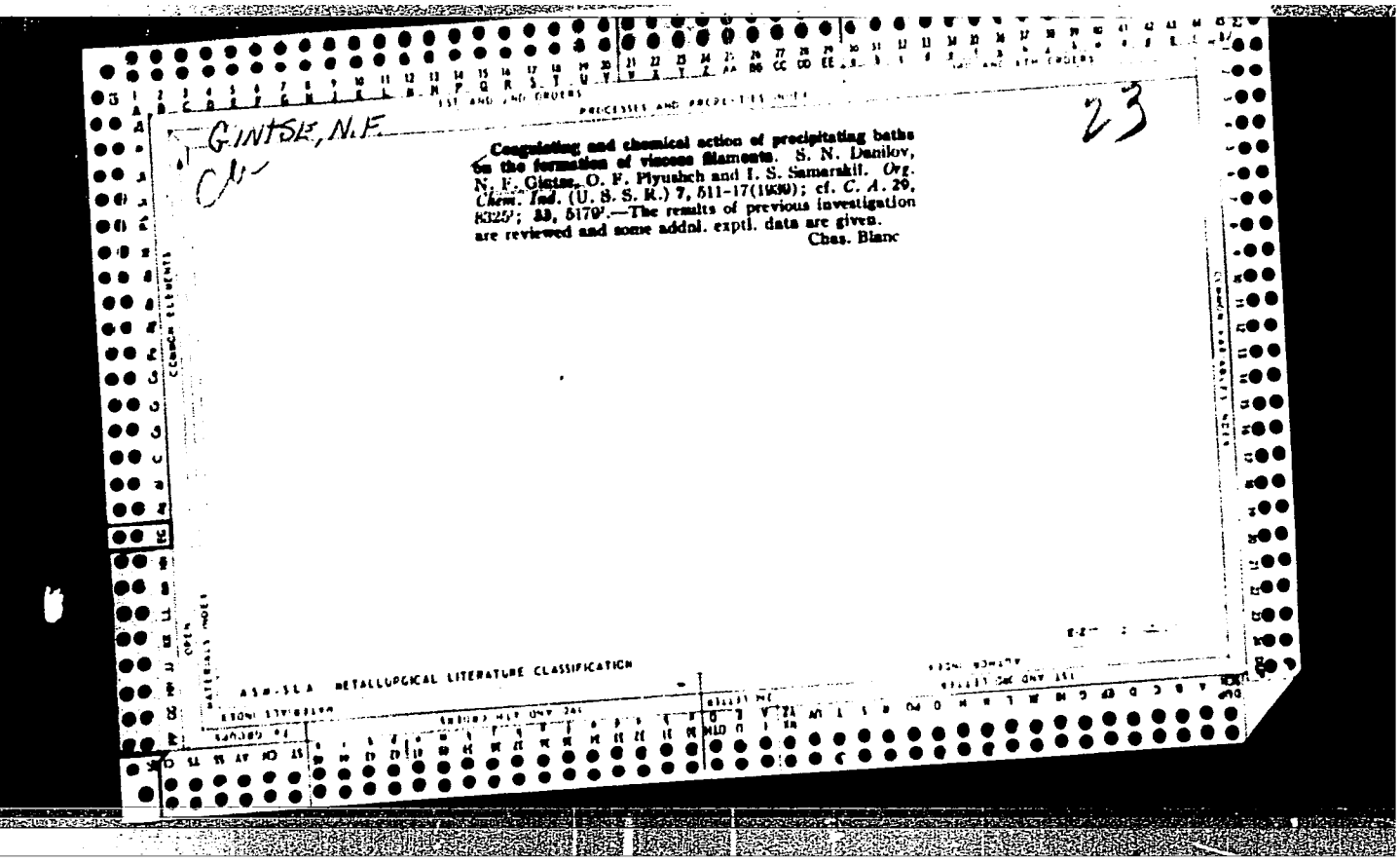

GINTSE, N.F.

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Coagulating and chemical action of precipitating baths in the formation of viscose filaments. S. N. Danilov, N. F. Gintse, O. F. Piyushch and I. S. Samarskii. *Org. Chem. Ind.* (U. S. S. R.) 7, 511–17(1939); cf. *C. A.* 29, 8325; 33, 5179.—The results of previous investigation are reviewed and some addnl. exptl. data are given.
Chas. Blanc

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